



# **ASSESSOR MANUAL**

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## **GENERAL APPRAISAL AND ASSESSMENT**

### **GLOSSARY OF TERMS**

**Accrued Depreciation** – The amount of depreciation, from any and all sources, that is affecting the value of a property. It represents the difference between reproduction cost new or replacement cost new of the improvements and the present worth of those improvements, both measured as of the date of the appraisal. Accrued depreciation is sometimes referred to as diminished utility.

**Actual Age** – The total number of years that have lapsed since the original date of construction and the effective valuation date. Sometimes referred to as historical or chronological age.

**Ad Valorem Tax** – A tax levied against taxpayers in proportion to the value of the goods or commodities being taxed. The property tax is an ad valorem tax.

**Aerial Photo Overlap** – The amount by which one photograph covers the same area as covered by another, customarily expressed as a percentage. The overlap between aerial photographs in the same flight line is called end lap, and the overlap between photographs in adjacent parallel flights is called side lap.

**Aerial Photography** – A photograph of a part of the earth's surface taken by special cameras mounted in aircraft or satellite.

**Age-Life Method** – A method of estimating accrued depreciation as a percentage. The percentage reflects the relationship of the estimated effective age to total economic life.

**Aggregate Ratio** – A measure of the level of assessment within a taxing jurisdiction reflecting the relationship of the total assessed value to the total market value of the total population or a sampled part thereof.

**Agricultural/Horticultural Property** – All real property used for agricultural purposes and devoted primarily to the raising and harvesting of crops; to the feeding, breeding and management of livestock; to dairying; or to any other agricultural or horticultural use or combination thereof; and the buildings and structures customarily associated with agricultural and horticultural uses. Agricultural and horticultural property shall also include land devoted to and qualifying for payments or other compensation under an agreement with any agency of the federal government.

**Agricultural Use Value** – A value estimate premised on the income approach based on the productive capability of the land.

**Anticipation, Principle of** – It affirms that value is created by the anticipation of future benefits. The value may be defined as the present worth of all rights to future benefits.

**Appraisal** – An estimate or opinion of value supported by the presentation and analysis of relevant data.

**Appraisal/Assessment Date** – The date being ascribed to an appraisal/assessment. Every appraisal must be made as of a specific date in order to identify the market forces and conditions which affect value. In Missouri, the effective date of assessment is January 1.

**Appraisal Process** – A systematic and orderly approach by which the problem of real estate valuation is defined; the work necessary to solve the problem is planned; and the data involved is acquired, classified, analyzed and interpreted into an estimate of value.

**Approaches to Value** – The traditional methods or techniques by which market data may be processed into an indication of value. The three approaches to value include the Direct Sales Comparison Approach, commonly referred to as the Market Data Approach or Market Approach; the Cost Approach, sometimes referred to as the Summation Approach; and the Income Approach, sometimes referred to as the Income Capitalization Approach.

**Assessment Level** – The percent of “true value in money” of property for ad valorem tax purposes upon which the property taxes are paid.

**Average Deviation** – A Measure of assessment quality reflecting the average amount of deviation of all the values from the mean or median value. It is the total of the individual deviations from the mean or median divided by the total number of observations.

**Balance, Principle of** – It holds that value is created and maintained in proportion to the equilibrium attained in the amount and location of essential uses of real estate. The degree of value of a property is governed by the balance or apportionment of the four factors in production; land, labor, capital and management.

**Building Capitalization Rate** – A rate which includes return on and return of capital invested in the improvements which is used in the residual techniques to value the improvements by segregating the property’s income into component incomes attributable to land and to the improvements.

**Building Residual Technique** – The process of estimating the contributory value of the improvements to the present worth or value of the entire property, over and above the value of the site, in which (1) the return attributable to the land, valued independently of the building, is deducted from the net operating income and (2) the residual income which represents the return to the building is capitalized into an indication of value attributable to the improvements.

**Bundle of Rights Theory** – The ownership of a parcel of real estate encumbers a great many rights. The rights of real estate ownership include the right to its occupancy and use; the right to sell it; the right to lease or rent it; the right to enter upon it; the right to give it away; or the right to refuse to do any of the above.

**Cadastral Base Map** – A map that shows the size, shape, and the extent of each land parcel in a prescribed geographical or map area. The map shows the boundaries of the subdivisions of land, usually with the bearings and the length thereof and the areas of individual tracts, for the purpose of describing and recording ownership. A cadastral map may also show culture, drainage, and other features relating to the value and use of land.

**Capitalization** – The process of converting into present value, or the present worth of, a series of anticipated future periodic installments of net income. In real estate appraising, it usually takes a form of discounting.

**Capitalization Rate** – The rate used to convert an estimate of net income into an estimate of market value. The rate reflects the relationship of normal net income to market value and is a summation of a discount rate, a capital recapture rate, and for assessment purposes and effective tax rate.

**Change, Principle of** – It holds that economic and social forces are constantly at work and changes brought about by these forces affect real property. The appraiser views real property and its environment as in transition and observes evidence of trends which may affect the property in the future. The law of change is fundamentally the law of cause and effect.

**Coefficient of Dispersion** – A relative measure of variability in a given distribution that describes the distribution of individual ratios in relationship to the mean or median ratio of a sampled grouping. It is calculated by dividing the average absolute deviation from the mean or median by the appropriate measure of central tendency being utilized. The resultant Coefficient of Dispersion is the percentage by which the various individual ratios differ, on average, from the mean or median.

**Commercial Property** – SEE Utility, Industrial, Commercial, and Railroad Property

**Comparative Unit Method** – A method of estimating replacement cost in which all the direct and indirect costs of a structure are aggregated and quantified with reference to a unit of comparison basis such as cost per square foot of building, cost per square foot of foundation, cost per cubic foot of building, etc.

**Competition, Principle of** – It holds that profit tends to breed competition and excess profit tends to breed ruinous competition.

**Conformity, Principle of** – It holds that the maximum value of a property is realized when a reasonable degree of sociological and economic homogeneity is present.

**Contribution, Principle of** – A valuation principle which states that the value of an item in production is measured by its contribution to the net return of the enterprise.

**Controlled Mapping** – A system whereby the relative positions of points and lines which are used as fixed references in positioning and correlating map features, are carefully determined and plotted from reliable survey data onto maps. Control is generally classified in four orders (with the first order denoting highest quality) according to the precision of the methods and instruments used in establishing the accuracy of the resultant positions and elevations. The lines on the control map control other smaller surveys, and they control property boundaries plotted from deeds.

**Control Point** – A reference point precisely located on a photograph and on the ground; used in assembly of photographs for map compilation.

**Coordinate System** – A system of locating any geographic point by determining its North-South and East-West distance from some known base point. For tax mapping purposes, it is a system for identifying each assessable parcel of real estate by means of coordinate system, usually by recording the coordinates of the center of each parcel.

**Correlation Process** – The process by which the appraiser reviews, evaluates, and selects from two or more alternative indicators and arrives at a single conclusion. In the appraisal process, during correlation or reconciliation, the appraiser examines the value indications of the cost, market, and/or income approaches to arrive at the final estimate of value.

**Cost Approach** – One of the three traditional approaches used in the valuation of real property and involves estimating a value attributable to the land, a replacement or reproduction cost new for the improvements, and an amount of accrued depreciation attributable to the improvements. The land value estimate is then added to the depreciated value of the improvements to arrive at an estimate of property values.



**Cost Adjustment Factor** – A factor or multiplier applied to a replacement or reproduction cost to account for variations in location and time, as well as for other elements of construction cost not otherwise considered.

**Curable Depreciation** – Those items of physical deterioration and functional obsolescence which can be reversed by corrective maintenance and remodeling to relieve the functional obsolescence. Curable depreciation is usually computed as the dollar amount equal to the cost-to-cure and is reimbursable in the marketplace.

**Deed** – A written legal instrument which conveys an estate or interest in real property.

**Depreciation** – A loss in value caused by deterioration and/or obsolescence. In appraising, it may be further classified as physical deterioration, functional obsolescence, and economic obsolescence.

**Depth Factor** – A factor or multiplier applied to a unit of land value, usually front foot value, to adjust the value in order to account for variations in depth from and established standard depth.

**Design Factor** – A factor or multiplier applied to a computed replacement cost as an adjustment to account for cost variations attributable to the particular design of the subject property which were not accounted for in the base cost tables.

**Direct Capitalization** – A conversion of net income into an indication of value by dividing the estimated net income by an appropriate rate which reflects the prevailing relationship of net income to the selling price of comparable properties currently being sold in the marketplace.

**Discount Rate** – An annual percentage rate which reflects the competitive rate of return on an investment and is not to be confused with the rate of interest or interest rate on borrowed funds.

**Dispersion** – A statistical term used to describe the extent to which a set of data is clustered, either tightly or loosely, around its measure of central tendency.

**Economic Life** – A period of life expectancy during which a property can be expected to be profitably utilized. Sometimes used synonymously with Total Economic Life (TEL).

**Economic Obsolescence** – Obsolescence caused by impairment of desirability or usefulness arising from factors external to the property. Also referred to as locational obsolescence.

**Economic Rent** – The rent which a property can be expected to bring in the open market as opposed to contract rent which is the rent the property is actually realizing at a given time. It is the market rent that a property should most probably command on the open market as of the effective date of the appraisal. Used synonymously with market Rent.

**Effective Age** – An age assigned to a structure based upon its condition, utility and remaining life expectancy as of the effective valuation date. It may be greater or less than the structure's actual or chronological age.

**Effective Gross Income** – An estimate of residual gross income remaining after an allowance for vacancy and collection losses has been deducted from the estimated potential gross income plus other miscellaneous incomes.

**Effective Tax Rate** – A Rate which indicates the relationship of the annual property tax of a property to the market value of that property. Simply, property taxes expressed as a percentage of full value. To

compute the effective tax rate, you must know the level or percentage of assessment and the official tax levy rate.

**Eminent Domain** – The right or power of governmental or quasi-governmental body to acquire private property for public or quasi-public use upon payment of a reasonable compensation.

**Encroachment** – It involves the gradual or partial displacement of an existing use by another use.

**Equalization Program** - A mass appraisal or reappraisal of all property within a given taxing jurisdiction with the goal being the equalization of all values in order to assure that each taxpayer is bearing only his fair share of the tax load.

**Equity** – In reference to value, it is that value of the property remaining after deducting all liens and charges against it.

**Equity Yield Rate** – An annual rate of return that is applicable to equity capital. It is a component of the capitalization rate (discount rate or mortgage-equity overall rate) that must be separately specified in band-of-investment analysis and mortgage-equity analysis.

**Escheat** – The ownership of property reverts to the state when an owner dies without leaving a will or heirs.

**Exempt Property** – Property owned by governmental, educational, charitable, religious and similar non-profit organizations that is granted a total or partial freedom from taxation.

**Fee Simple Title** – In real property ownership, it consists of complete ownership interest (bundle of rights) in a property subject only to the limitations of eminent domain, escheat, police power and taxation.

**Forest Cropland** – Lands devoted exclusively to growing wood and timber. Real property classified as forest croplands shall not be classified as agricultural or horticultural property so long as it is classified as forest croplands and shall be taxed in accordance with the laws enacted to implement Section 7 of Article X of the Missouri Constitution.

**Front Foot Value** – A unit of value for a parcel of real estate that is expressed in terms of front foot units. A front foot unit being a land measure equal to one foot in width along the frontage of a property and extending to the rear of the parcel.

**Functional Obsolescence** – A loss in value which is due to the impairment of a property's functional utility which is the ability of the property to perform the function for which it is intended. This utility is considered with respect to current market standards. For a residential property, elements of functional utility may include architectural type, design and layout, traffic pattern, size and types of rooms, etc. Functional obsolescence may be considered to be curable or incurable. Whether the cost-to-cure is greater than or less than the anticipated increase in value, due to the increase in utility resulting from the correction of the obsolescence, determines whether the obsolescence is curable or incurable.

**Geodetic Survey System** – The United States Coast and Geodetic Survey System consists of a network of benchmarks, each located by its latitude and longitude, which covers the entire country. This system is used to locate and identify tracts of land.

**Governmental Survey System** – Often referred to as the Rectangular Survey System, it is a method of ground survey authorized by the Continental Congress in 1785 which divides land into townships approximately 36 miles square. Each township normally contains 36 sections with each section

containing approximately six hundred forty acres and being one mile square. Most legal descriptions in the State of Missouri are based upon the Governmental Survey System.

**Grantee** – The person(s) to whom property is transferred and property rights are granted by deed, trust instrument or other similar documents. The person(s) who buys the property.

**Grantor** – A person(s) who transfers property or grants property right by deed, trust, instruments or other similar documents. The person(s) who sells the property.

**Gross Floor Area** – It consists of the total floor area of a building as calculated from measurements taken of the exterior walls of the building.

**Gross Income** - It embodies the gross possible income, also called Potential Gross Income that a property will produce at 100% occupancy and at a rental rate competitive with the market.

**Gross Income Multiplier** - A multiplier that represents the relationship between the gross income of a property and its estimated value. It is calculated by dividing the sales price of a property by its gross income at the time of sale. The multiplier to be used in an appraisal is developed through an analysis of a sufficient number of comparable properties which were rented at the time of sale. When the gross income multiplier, also called the gross rent multiplier, is applied to a property's potential gross income, an estimate of value is indicated.

**Highest and Best Use** - The use which will generate the highest net return to the property, as of the effective date of the appraisal, given probable legal, physical and financial constraints.

**Homogeneous** - A term that is used to describe an area or neighborhood in which property types and uses possess the quality of similarity and compatibility.

**Horticultural Property** - See Agricultural/Horticultural Property.

**Income Approach** - One of the three traditional approaches to value which measures the present worth of the future benefits of a property by the capitalization of the projected net income stream over its remaining economic life. The approach involves estimating the gross possible income; subtracting a reasonable vacancy and credit loss from the gross possible income to determine effective gross income; subtracting allowable operating expenses from effective gross income to determine net operating income; determining the proper capitalization method; computing the correct capitalization rate; and then capitalizing that projected net income into an indication of value.

**Increasing and Decreasing Returns, Principle of** - A theory that additional agents of production will produce an increase in value that exceeds the additional cost of production up to a certain point; at which point, the maximum true value in money is achieved and any additional investment of an agent of production will not produce an increase in "True Value in Money" equal to the cost of the additional agents.

**Index Map** - A map of smaller scale which is used to identify the area of coverage by each base tax map within an assessment mapping system.

**Industrial Property** - SEE Utility, Industrial, Commercial and Railroad Property.

**Influence Factor** - A factor serving to either devalue or enhance the value of a particular parcel of land, or portions thereof, relative to the norm from which the base unit values were established and is generally expressed in terms of a percentage adjustment.

**Institutional Property** - Land and improvements used in conjunction with providing public services and generally owned and operated by the government or other nonprofit organizations such as hospitals, schools, prisons, etc.

**Interest Rate** - The rate of return on a real estate investment which reflects the compensation necessary to attract investors. In this manner, it is often used synonymously with Discount Rate. It may also be used to indicate the rate of interest to be paid on borrowed funds.

**Land Residual Technique** - A valuation technique which presumes that the building and land each contribute to the total net income of a property. This technique requires that the value of the building be known. Through capitalization of a building value, the income stream attributable to the building is determined; then subtracted from total net income to produce the portion of the income stream attributable to the land. This residual income is then capitalized at an appropriate discount or land capitalization rate into an indication of land value.

**Land Use Map** - A map which indicates the type and distribution of individual land uses within a community or district.

**Land Value Map** - A map used in conjunction with mass appraising to show comparative unit land values relative to specific land areas. The sale prices of actual land transfers are converted into a unit of land value (front foot, square foot, 1 acre, etc.) and are recorded on the land valuation map. Through analysis of these sale price units, base land unit values are developed and applied to the individual parcels contained thereon.

**Lease** - An agreement, usually in writing, which conveys the rights of use and occupancy of land and/or improvements of the owner (lessor) to another party (lessee) for a specified time and under specified terms and conditions.

**Leasehold** - The interest in a property that is held by the lessee or tenant as specified in the lease agreement.

**Leasehold Value** - The value of a leasehold interest. When current market rent exceeds the contractual rent, the present worth of the rental savings is considered to be the value of the leasehold interest.

**Legal Description** - The description of a parcel of land which serves to identify and distinguish that parcel from another in a manner sanctioned by law.

**Local Multiplier** - A factor applied to base cost schedules that provides an adjustment of these schedules to a particular location or district.

**Market Data Approach** - An appraisal valuation approach, also called the Sales Comparison Approach, which is used to develop an indication of value for a property by compiling data on properties which are comparable to the subject property and which recently sold. An adjustment is made to the selling price to account for differences in time, location and property characteristics between the comparables and the subject property. The adjusted sale prices should provide an indication of value for the subject property.

**Market Price** - It is the actual amount of money given in exchange for or paid for a property. It may or may not reflect market value.

**Market Value** - The highest price estimated in terms of money which a property will bring if exposed for sale on the open market for a reasonable length of time, providing there is a knowledgeable buyer and

seller both aware of all the uses to which a property is adapted and for which it is capable of being used. Used synonymously with True Value in Money.

**Mass Appraisal** - The process of appraising a large number of properties within a jurisdiction, generally for ad valorem tax purposes, which uses standardized appraisal techniques and procedures to affect uniform and equitable valuations within a limited time period.

**Mean** - Also called Arithmetic Average, it is a measure of central tendency for a group of individual numerical values equal to the sum of those values divided by the total number of value indications.

**Median** - A measure of central tendency, describing a group of numerical values, defined as the midpoint of the distribution. The median is that value that is located midway between the highest and lowest numerical value when ranked in order of magnitude of ascending or descending values.

**Mortgage** - A legal document by which the owner of a property, the mortgagor, pledges the property to a creditor, mortgagee, as security for the payment of a debt.

**Mortgage-Equity** - A capitalization or valuation technique which converts income into value by employing an overall capitalization rate in which the appraiser recognizes the influences of the mortgage terms, equity requirements, a typical holding period, and the expected depreciation or appreciation over the holding period on income-producing properties.

**Most Probable Selling Price** - The price at which a property would most probably sell if exposed to the market under prevailing market conditions as of the date of appraisal.

**Neighborhood** - A geographical area exhibiting a high degree of homogeneity in land use, grouping of inhabitants, buildings or business enterprises. Neighborhoods are delineated by three types of boundaries: (1) Natural barriers - rivers, lakes, etc.; (2) Man-made barriers - highways, railroads, etc.; and (3) Political boundaries - zoned land use areas, city limits, school districts, etc.

**Neighborhood Life Cycle** – As reflected by the Principle of Change, a neighborhood typically evolves through three discernible life patterns. The three stages in the lifecycle of a neighborhood include: (1) Growth – the period during which the neighborhood is characterized by development and growth; (2) Stability – the period of time characterized by an equilibrium or leveling off of values; and (3) Decline – the life stage characterized by diminishing demand and decay. Neighborhood renewal and rehabilitation may cause the life cycle of a neighborhood to be repeated.

**Net Income** - The annual residual income, before allowance for debt service, depreciation and taxes, which is capitalized into an estimate of value. Net income is that portion of gross annual income remaining after an allowance for vacancy and collection losses and a deduction for all fixed and operating expenses related to the cost of ownership are applied to gross income. Net income is synonymous with Net Operating Income (NOI) and Net Income before Recapture (NIBR).

**Obsolescence** - That form of depreciation that reflects a loss due to the diminishing of a property's desirability and usefulness caused by either functional inadequacies or superadequacies inherent in the property itself, or adverse economic factors external to the property. Therefore, the obsolescence may be either functional or economic.

**Operating Expense Ratio** - A mathematical expression that reflects the relationship of annual operating expenses to annual effective gross income as a percentage.

**Operating Expenses** - The necessary charges or expenses incurred by ownership of or investment in income-producing property. Net operating expenses are those fixed expenses, variable operating costs and reserves for replacements which are required for the production of income from the operation of a property.

**Overage Income** - Rental income received over and above the minimum contract rent, payable under the terms of a lease based upon a specified percentage of a tenant's business receipts.

**Overall Rate** - A capitalization rate which represents the relationship of the annual net operating income before recapture of a property to its value or sale price.

**Orthophotography** – Aerial photography wherein most scale and position distortions, inherent in aerial photographs, have been eliminated.

**Parcel** - Any portion of land that is individually listed and described in the county's assessment records. A parcel must consist of all contiguous land owned by the same legal entity and of a single use within a section.

**Parcel Identification Number** - An individualized numerical description assigned to a parcel in order to distinguish that parcel from another. Parcel identification numbers, in order to perform their functions, possess a number of desirable characteristics uniqueness and permanence, simplicity, and convenience of use. The most common and recommended parcel identification systems include the Geographic Coordinate System, the U.S. Federal Rectangular Survey System and the Assessor's Map Book and Page System.

**Performance Bond** - A bond supplied by a contractor as clear evidence of its past performance and as a demonstration that it possesses the resources, both financial and technical, to successfully complete the project in accordance with the terms of the contract.

**Personal Property** - Any property that is not permanently affixed to or made a part of real estate. In determining whether an item is personal property, generally considered to be movable items, the appraiser/assessor should consider: (1) the manner in which the item is attached to the property, (2) the intentions of the party who made the attachments, and (3) the purpose for which the premises are used. In most instances, it is generally considered that an item remains personal property if it can be removed without serious injury either to the item itself or to the real estate.

**Physical Deterioration** - The loss in value due to the physical wear and tear experienced by the structure as reflected by its age and the actions of the elements on the improvements. Physical deterioration may be classified as either curable, sometimes referred to as deferred maintenance, and incurable.

**Preferential Assessment** - An assessing system which provides preferential treatment in the form of reduced rates to a particular class of property. As set out in Section 137.017 to 137.021, RSMo, the assessment of farm properties pursuant to these statutory guidelines is considered to be preferential assessment as farm properties are assessed in accordance to their value in use as opposed to their value in the open market.

**Property Classification System** - The classification of like properties as defined by its type (real property, personal property, etc.) or its use (residential, commercial and industrial, agricultural, utility, etc.). Pursuant to the Constitution of Missouri, property in Missouri shall be classified for tax purposes as follows: Class 1, Real Property; Class 2, Tangible Personal Property and Class 3, Intangible Personal Property. Property in Class 1 shall be subclasses as follows: (1) Residential Property, (2) Agricultural

and Horticultural Property, and (3) Utility, Industrial, Commercial, Railroad and all other properties not included in subclasses 1 and 2.

**Property Classification Tax System** - A taxing system as established by law where the various types and kinds of properties are assessed at different assessment levels.

**Property Record Card** - A document designed to record and process specified property data. The record card may serve as a source document, a processing form, and/or a permanent property record.

**Property Residual Technique** - A capitalization technique which provides an estimate of value applicable to the total property, without separation into land and building values. The property residual technique employs direct capitalization of the property's net income by an overall rate that may be developed from analysis of comparable sales. In annuity capitalization, the technique sums the present worth of the income stream and the present worth of any reversionary value to the property into an estimate of value for the property.

**Price Related Differential** - A measurement, expressed as a percentage, between the mean and aggregate ratios for a group of properties that indicates the degree to which high value properties are over-assessed or under-assessed in relation to low value properties.

**Quality Classification** - It involves the subjective classification of a structure by an appraiser into any one of several standardized qualities or grades. A quality classification or grade is intended to describe a building and its improvements based upon its inherent features and degree of construction excellence quality of materials, workmanship, etc. Standardized quality classes or grades are keyed to the base cost schedules contained in any given cost manual.

**Quantity Survey Method** - The most detailed and comprehensive method of projecting an estimate of a reproduction cost. It involves the itemization and summation of all materials and their respective costs, labor hours and costs, and all indirect costs (permits, insurance, office expense, and other overhead plus a margin for profit) into a total cost estimate.

**Railroad Property** - SEE Utility, Industrial, Commercial and Railroad Property.

**Range** - A mathematical inference that expresses the difference between the highest value and the lowest value in an array of raw numerical data arranged in either ascending or descending order of magnitude.

**Ratio** - A mathematical inference, expressed as a percentage, that describes the degree of relationship between two similar things. For example, an assessment ratio expresses the relationship that exists between the assessed value and the true value (market value) for a property. An assessment ratio is determined by dividing the assessed value by either the indicated market value or the sales price of the property.

**Ratioed Photography** - Aerial photography developed through a photographic process that adjusts for the various sources of distortion or image displacement to form a single, two-dimensional representation of the ground's surface features through the application of an analytically developed ratio. Ratioed photography does not provide the degree of accuracy that is obtainable through the use of rectified photography or orthophotography and is therefore not suitable for tax mapping purposes.

**Real Estate** - This refers to the physical entity which is comprised of the land and all things of a permanent and substantial nature affixed thereto. The chief characteristics of real estate are its immobility and tangibility.

**Real Property** - A term which embraces the tangible or physical elements of real estate, the physical land and appurtenances affixed thereto, and the intangible characteristics, the bundle of rights with which ownership of real estate is endowed.

**Reassessment** - The process which employs the mass appraisal or revaluation of all properties contained within a given jurisdiction for the purpose of establishing a new and equitable tax base.

**Recapture Rate** - A component of the capitalization rate which provides for a return of the original capital investment in a wasting asset. The rate is equal to the annual amount of dollars to be returned to the investor over the life of the property divided by the amount of the original investment.

**Rectified Photography** - Aerial photography developed through a process so as to remove distortion or displacement due to the tilt of the aircraft when the picture was originally taken. The process involves the use of predetermined, identifiable and measurable ground control monuments. A certain amount of distortion will still exist as the photographic image is removed from these ground control points.

**Remaining Economic Life** - As of the date of the appraisal, it is the number of years that represents the economic usability left in the improvements, or components thereof. At the end of the remaining economic life, the improvements will not contribute to the value of the property.

**Replacement Cost New** - The cost new which represents replacement of the existing improvement with one having the same utility using current construction materials, design and workmanship. The use of replacement cost is presumed to eliminate or partially eliminate deficiencies or superadequacies of an existing improvement.

**Reproduction Cost New** - The expenditure that reflects the cost new of duplicating an exact replica of the existing improvement using the same materials, design and quality of workmanship. Reproduction Cost New incorporates the inclusion of any functional obsolescence currently existing in the improvement.

**Reserve for Replacement** - An annualized expense allowance that provides for the eventual replacement of short-lived items of equipment and building components that wear out more rapidly and will require replacement before the end of the economic life of the building is reached.

**Residential Property** - All real property improved by a structure which is used or intended to be used for residential living by human occupants and which contains not more than four dwelling units or which contains single dwelling units owned as a condominium or in a cooperative housing association. The term "cooperative housing association" means an association organized for the purpose of owning and operating residential real property in Missouri, the shareholders or members of which are entitled to occupy a dwelling unit pursuant to the terms of proprietary lease or occupancy agreement. It also refers to vacant land whose highest and best use is for residential occupancy

**Revaluation Program** - SEE Equalization Program.

**Sales/Appraisal Ratio Study** - A statistical study concerned with the measurement of assessment accuracy. Assessment accuracy is concerned with the measurement of the assessment level and the uniformity of assessments. Statistical inferences are made regarding an entire population through analysis of a distribution of sales-assessment ratios of a sample population selected from the total population or universe of parcels for which the analysis is being conducted.

**Sales-Assessment Ratio** - A mathematical measure that expresses the relationship of the assessed valuation of a property to its total value as represented by a sales price or appraised value.



**Sample** - In statistics, a randomly selected portion of the entire population that is representative of that universe and will be the basis upon which statistical inferences will be made concerning the population from which it was abstracted.

**Sample Size** - This represents the actual number of individual observations that are analyzed. The size of a sample is based upon three major factors, of which the size of the population is not one. The factors are: (1) the degree of confidence" selected or desired; (2) the maximum allowable error considered acceptable; and (3) an estimate of the population's standard deviation. If the population's standard deviation is unknown, the standard deviation of a "sample" may be used as a representative of the population's standard deviation.

**Soil Classification System** - A system in which land is rated or graded according to its ability to produce. It considers not only the physical factors of soil but the availability of water, effects of climate and erosion, and soil management and conservation practices. There are eight descriptive land grades used for categorizing agricultural or horticultural land in Missouri.

**Soil Productivity** - This is the capacity of a soil to produce a crop in its present environment considering a typical management system.

**Standard Deviation** - An absolute measure of variability for describing the distribution or dispersion of individual observations in relation to the measure of central tendency represented by the mean. It is a measure of variability that is used as a common denominator to compare the representativeness of the means of two comparable populations and the distribution of the individual samples to which it belongs.

**Standard Error of Mean Ratio** - It is representative of the standard deviation of the population. If all possible samples of a certain size are drawn from the population, the mean of all the sample means would equal the population mean. The standard error of the mean would be the standard deviation of the individual sample means from the population mean.

**Stratified Sample** - A sample in which the population is divided up into subgroups or strata and the number of items in each stratum of the sample population will be in the same proportion as found in each of the population strata.

**Sublease** - An agreement, usually in writing, which sublets to a third party the rights of use and occupancy, or a portion thereof, that are currently subject to the terms of an existing primary lease. Under the terms of this secondary agreement, the lessee of the primary lease now becomes the lessor.

**Substitution, Principle of** - It affirms that value tends to be set by the cost of acquiring a substitute property that is equally desirable and provides similar utility. The principle assumes that there will be no costly delay in acquiring the substitute property, the property is available on the open market, and the actions would be those of a knowledgeable and prudent purchaser. This principle serves as a basis for all three approaches to value.

**Supply and Demand, Principle of** - It affirms, that as of a specific date, the interacting forces of supply and demand within a particular market have an effect on value. An increase in supply associated with a decrease in demand will decrease the price; while adversely, a decrease in supply and an increase in demand will cause an increase in price.

**Surplus Productivity, Principle of** - It states that the agents in production must be satisfied in the following order: (1) labor or wages, (2) management or coordination, (3) capital or improvements, and (4) land. This principle holds that any net income remaining after the cost of the first three agents of

production are paid is considered surplus productivity and is attributable to the land. Therefore, the value of the land tends to be established by the costs for these production agents.

**Tax Base** - This refers to the value unit upon which the amount of tax dollars is determined. In property taxation, it refers to the total amount of assessed valuation which may represent the total market value or fractional part thereof of all property in a jurisdiction.

**Tax Map** - A map that provides a graphic inventory of real property parcels and shows the individual property ownership boundaries in true relative size, shape and location for each with respect to all other parcels. The map also provides for the identification of each parcel with a unique numeric description.

**Topographic Map** - A map that charts the contours or surface gradations of the earth by showing the horizontal and vertical positions of the physical and cultural features of the earth's surface.

**Township** - Within the Rectangular Survey System, it is the basic unit of land description that is formed by the crossing of parallel township lines and range lines at approximately six mile intervals thereby forming an area that contains thirty-six square miles. A township is subdivided into thirty-six sections that are approximately one mile square and contain 360 acres each, more or less.

**Uniformity of Assessments** - An expression which implies that all the assessments on properties within a taxing jurisdiction have a common relationship to market value. When all assessments are at a uniform or common level, the tax burden is considered to be equally distributed.

**Unit-in-Place Method** - A method of cost estimating in which the costs of individual structural components (foundations, walls, roof, etc.) are specified in appropriate unit measurements (area, volume, length), multiplied by the estimated quantity of structural components contained within a particular structure, and summed to obtain an estimate of the cost of the entire structure.

**Unit Value Method** - It is an appraisal technique that produces a valuation of a whole property without geographical or functional division of the whole. This technique is most applicable in the valuation of public utility and railroad properties in which the operating property of the business enterprise in its entirety is valued as a unit. After the unit value is determined, each taxing jurisdiction is apportioned or allocated the portion of the unit value applicable to the amount of distributable property contained therein. The apportionment is made on a standard unit of measurement, such as mile of line (electric/telephone companies) or mile of track (railroads).

**Universe** - A statistical term that refers to the total population or entire group of relevant data upon which a statistical inference is being made based upon a sampled portion thereof.

**Utility, Industrial, Commercial and Railroad Property** - All real property of every kind used directly or indirectly, or held for use, for any commercial, mining, industrial, manufacturing, trade, professional, business, or similar purpose, including all property centrally assessed by the State Tax Commission. Except as may be determined pursuant to Subsection 2, 3 or 4 of Section 137.016(3) RSMo, all other real property not included in the property listed in subclasses (1) and (2) of Section 4(b) of Article X of the Missouri Constitution, as such property is defined in this section, shall also be deemed to be included in the term "utility, industrial, commercial and railroad property".

**Value** - It is an expression of the relationship between a thing desired and a potential purchaser. This relationship is expressed in terms of money and is reflective of the worth of an item in exchange. In the appraisal of real estate, it can be described as the present worth of future benefits to be derived from ownership.

**Value in Exchange** - The worth of property that reflects the actions of typical buyers and sellers in the marketplace, when all the conditions of market value are met. This value is synonymous with Market Value.

**Value in Use** - The worth of a property that is of a highly special design or use and is of a type that is not commonly bought or sold in the market because of its limited utility. The property is useful to its present owner and is usually designed for a particular use.

**Warranty Deed** - A legal instrument which conveys to the grantee the title to property wherein the grantor warrants that this title is free and clear of all encumbrances, except any that have been specifically set forth in the deed itself.

**Wasting Asset** - A property or resource whose value diminishes with the passage of time. Such assets include buildings, mineral deposits, etc.

**Weighted Ratio** - SEE Aggregate Ratio.

## **CABLE TELEVISION SYSTEM**

### **GLOSSARY OF TERMS**

**Access Channels** - Channels that are set aside for programming by groups or individuals from the community.

**Addressable programming** - Programming that is directed to specific television sets. This enables only certain TV sets to receive the programming.

**Amplifier** - An electronic device, mounted at prescribed distances along the cable that intensifies the signal (i.e. trunk amplifiers, line extender amplifiers).

**Antenna** - A metallic apparatus used for sending or receiving electromagnetic waves such as TV signals.

**Basic Rate** – The monthly fee that the subscriber pays for basic reception provided by a CATV system.

**Cable** - The medium used to carry signals to subscribers' homes; it consists of trunk cable and feeder cable.

**Cable Operator** - Any person (s) who owns or operates a cable system, and is responsible for its management and operation.

**CATV** - Community antenna television (cable TV). A system that is comprised of antennas, coaxial cable and various electronic equipment used to receive and distribute radio and/or television signals to subscribers for a fee.

**Cable casting** - All television programming that originates on a cable system.

**Channel Capacity** - The number of TV signals that a cable system is capable of receiving and distributing to subscribers.

**Channel Utilization** - The actual number of channels in use on the system.

**Coaxial Cable** - A copper wire covered with an insulator which is wrapped in aluminum and covered by a plastic coating, and is used by cable systems to transmit signals.

**Connect Drops (also called Subscriber Drops)** - The segment of the distribution system that connects the subscriber's home to the feeder line by means of a tap.

**Converter** - An electronic device that acts as a tuner, and receives additional channels that the set is not designed to receive. Converters can be addressable or nonaddressable {See addressable programming}.

**Distribution System** - The part of the CATV system used to carry signals from the Headend to the subscriber. It includes amplifiers, trunk and feeder cable, subscriber taps, connect drops and assorted equipment.

**Dual System** - A system that utilizes two cables to increase the channel capacity of a CATV system.

**Earth Station** - A facility that uses antennas and equipment to transmit, receive and process communications beamed via satellite.

**Franchise** - A license that is awarded to the cable TV company, by a locality, which governs the construction and operation of the system.

**Franchise Fee** - An amount paid to a municipality, usually from three (3) to five (5) percent of gross revenues. Such fees are for the right to operate the CATV system in a given locality.

**Headend** - The portion of a CATV system that includes the antenna (s) and a building housing electronic equipment. Five functions are performed at this site: (1) reception of the incoming signals; (2) pre-selection of the desired channels; (3) conversion of signals to proper channels; (4) process and amplify signal for sound and picture quality; and (5) combine all signals from each channel for distribution to subscribers.

**House Drop** - (See Connect Drop)

**Line Extender Amplifiers** - (See Amplifier)

**Microwave Antennas** - A Parabolic dish that acts as a collector which reflects the broadcast signal to a horn located at the center of the dish. The system can broadcast point to point transmission signals which can be located up to thirty (30) miles apart.

**Modulator** - An electronic device used to adjust the strength and quality of the signals.

**Multi System Operator -MSO** - A company or person that owns or operates more than one cable system.

**Origination Equipment** - The cameras, lights, video recorders, projectors, and other equipment that a cable system uses to telecast local programming, such as time-weather, news and local events.

**Pay-Per-View** - The ability to purchase cable programs on one or more channels on an individual basis. Subscribers are charged for a specific program that is viewed.

**Pay TV** - Special TV programming such as H.B.O. that has no commercials and is received and charged in addition to the regular subscriber fee.

**Pole Rental** - A fee paid to the utility company for the right to use the poles.

**Premium Channel** - (See Pay TV)

**Public Access** - The channel space available to individuals or community groups that wish to develop programming of their own, usually specified by the franchise agreement.

**Satellite** - A machine in orbit above an area on earth, used for relaying TV signals back to earth. Earth station antennas receive the satellite relayed TV signals.

**Saturation Ratio** - The percentage of cable subscribers to the total possible subscribers. Also called density factor.

**Service and Test Equipment** - A group of machines, including but not limited to oscilloscopes, field strength meters, spectrum analyzers and cable testing equipment.

**Subscriber Drops** - (See Connect Drops)

**Superstation** - An independent broadcast station whose signal is beamed to a satellite and then relayed to cable TV systems who receive the signal.

**Tap** - The device used to tap a signal off the feeder cable and send signals to the subscriber's home via flexible coaxial cable.

**Tower** - The structure that supports antennas, ranging in height up to 400 feet. The tower can be self-supporting or guyed, depending on factors such as wind and antenna characteristics.

**Trap** - A device that is connected at the tap to prevent reception of pay TV (Negative trap). A positive trap performs the opposite function and is designed to allow reception of specific pay TV channels.

**Trunk Line** -The cable running from the Headend to the feeder line.

**Two-Way Cable** -A cable that has the ability to carry signals in two directions; from the Headend to subscribers, as well as from subscribers back to the Headend.

## AGRICULTURAL/ HORTICULTURAL LAND

### GLOSSARY OF TERMS &

#### AFFECTS ON SOIL CAPABILITIES WHERE APPLICABLE

**Accretion Land** - The increasing of dryland by the gradual depositing of water borne solid materials. It is the opposite of erosion.

**Aeration** - The exchange of air in soil with air from the atmosphere.

*Affect:* Poorly aerated soils are more compressed or compacted and contains less oxygen which is essential to plant growth. Excess water (water logging) or compaction of soil from heavy farm equipment compresses the soil and reduces the ability to acquire and store oxygen. Productive capability of poorly aerated soils is severely restricted.

**Alkali Soil** - A soil that has such high degree of alkalinity or high percentage exchangeable sodium that the growth of most crops is reduced.

**Alluvial Soil** - A soil formed from materials transported and deposited by flowing water.

**Alluvium** - Soil material such as silt, sand and clay that is carried by water and deposited on the land.

**Available Water Capacity/Available Moisture Capacity** - The capacity of soils to hold water available for use by most plants.

*Affect:* Simply put, this is the available water storage capacity of the soil. Soils with a limited ability to retain moisture in the plant rooting zone {upper 60 inches of soil} such as sandy, rocky or shallow soil severely limits production capability and is often referred to as a "doughty" soil. The condition is especially damaging during the dry hot months of late summer, causing plants to wilt and produce limited crop yields.

**Basic Crops** - Crops such as corn, wheat, and sorghum that are most important in the agricultural economy.

**Chart** – A very hard flint like type rock with sharp angular edges. Has splintery characteristics and resists decomposition. Chart normally ranges in size from golf ball size to the size of a double fist.

*Affect:* Provides no natural nutrients for plant growth, limits moisture retention and hampers seed bed preparation. In many cases chart is not visible on the surface, especially in hay and grasslands, but is immediately below the surface in the topsoil and becomes obvious when the soil is worked. A heavy concentration of chart in the footing zone of the subsoil will also affect production capabilities.

**Clay** – Commonly the finest or smallest particles of soil. Wet clay is sticky or gummy. Sometimes referred to as heavy soils or gumbo. Clay soils take water slowly and are slowly or very slowly permeable. See soil textures for clay size.

**Clayey** – Soils that are high in clay content. It includes the textures of clay, silty clay and sandy clay.

**Claypan** - A slowly permeable soil horizon that contains much more clay than the horizons above it. It is commonly very hard when dry and plastic or stiff when wet.

*Affect:* Claypan creates a parched water table or ponding problem in poorly drained or depressed areas and limits or restricts root penetration for deep rooting crops adversely affecting crop yields.

**Compaction/Compression** - An excessive decrease in volume of soil under load.

*Affect:* Results in decreased aeration and a reduced supply of oxygen. Lowers moisture retention capability and inhibits root development.

**Consistency** - The feel of the soil and the ease with which a lump of dirt can be crushed by the fingers. Terms commonly used to describe consistency are loose, friable, firm, plastic, sticky, hard, soft and cemented.

*Affect:* A soft, friable soil provides for greater water permeability, better root system development and normally indicates a higher organic matter content. A plastic, hard or cemented consistency that inhibits moisture penetration, restricts root system development, provides poor aeration and contains low organic matter content.

**Cropland** - That part of the farm acreage normally used for the production of crops or rotation pasture.

**Crop Mix** - Crop mix refers to the ratio of the different kinds of crops on the land on a farm or in a certain area. This ratio can be expressed in acres, percent or years.

**Crop Rotation** - The growing of different crops in recurring succession on the same land.

**Depth (Soil)** - Refers to root zone or rooting depth - not just top soil. The depth of soil, expressed in inches, that is capable of providing moisture, plant nutrients and root development for crops. It is normally divided into three classes: (1) Deep - more than 40 inches; (2) Moderately Deep - 20 to 40 inches; and (3) Shallow - 0 to 20 inches.

*Affect:* Deeper soils provide a much higher available moisture capacity, access to more of the natural soil nutrients and a capability to withstand longer periods of dry weather resulting in better productive capability.

**Drainage (Natural)** - Natural drainage refers to the frequency and duration of periods of saturation. Seven classes of drainage recognized: (1) excessively drained; (2) somewhat excessively; (3) well drained; (4) moderately well drained; (5) somewhat poorly drained; (6) poorly drained; and (7) very poorly drained.

*Affect:* Soils that are either excessively drained or somewhat excessively drained are normally either steep, sandy or shallow; and they have insufficient available water capacity to readily adapt to row crops. Poorly drained and very poorly drained soils remain wet for extended periods, limit seeding opportunities and inhibit aeration. Poor drainage also contributes to leaching of soil nutrients and compaction problems. Poor drainage is normally found in level or depressed areas or where seepage occurs. It may indicate a claypan subsoil. Artificial drainage may correct these drainage problems.

**Draughty** - These are soils that have an insufficient capacity for moisture retention or absorption deficiencies that cause the depletion of moisture retention necessary for plant growth during periods of limited rainfall. Factors contributing to draughty soils are slope (rapid runoff that limits moisture absorption), sandy soil (limited moisture retention), shallow soil depth, chert, rock, etc.

*Affect:* Crop selection and production is severely limited due to draughty soils. Insufficient moisture retention (draughtiness) restricts plant development and reduces crop yields. During the hot weather season, row crops wilt and become dormant and grasses and legumes turn brown and lose nutritional values. A draughty soil is poorly adapted to vegetation growth.



**Dryland Farming** - The practice of crop production in areas without irrigation.

**Erosion** - The wearing away of the land surface by wind, water or ice (primarily water and wind in our area). There are two types of erosion:

- Sheet erosion - the removal of a fairly uniform layer of soil from the land surface by runoff water or by wind.
- Gully erosion - occurs when water accumulated in narrow channels removes the soil from this area to a considerable depth (from 1 to 2 feet to a depth of several feet). Some conditions that contribute to erosion are slope, soil texture, flooding, etc.

*Affect:* Erosion, either past or potential, is extremely important since loss of topsoil normally means that the most fertile soil has been removed thereby taking away the natural and valuable plant nutrients – minerals and organic matter. Equally important is the fact that the remaining exposed soil commonly has more clay. Severe erosion can also restrict the effective use of farm machinery.

**Fallow** - Allowing cropland to lie idle, either tilled or untilled, during the whole or greater portion of the growing season.

**Farm Land** - Land devoted to agricultural production, usually used to refer to the land comprising a farm. Such land includes both tillable and untiltable areas as well as any woodlot.

**Fertility, Natural (Plant Nutrients)** - The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, when light, moisture, temperature, tilth and other factors are favorable. Plant nutrients are mainly nitrogen, phosphorous potassium, calcium, magnesium, sulphur, iron, manganese, copper, boron and zinc obtained from the soil and oxygen, carbon and hydrogen obtained from the air and water. Natural fertility is normally described as low, medium or high.

*Affect:* Natural fertility not only reflects soil production capabilities prior to the use of soil amendments, but natural fertility is also important in indicating how effectively the soil responds to a reasonable and cost effective application of these fertilizers. In other words it just is not cost effective or profitable to apply 400 pounds of fertilizer per acre when you could not expect more than 50 bpa corn or 20 bpa beans or wheat.

**Forest Land** - Land which is wooded by nature or man and consisting of a dense growth of trees and underbrush.

**Fragipan** - A loamy, brittle subsoil horizon that is low in porosity, content of organic matter, and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented. When dry it is very hard and when moist it tends to rupture suddenly under pressure rather than deforming slowly. Coarse fragments may or may not be present in a fragipan.

*Affect:* Fragipan layers restrict movement of air and water in the soil. Root development is severely restricted and the high acid nature of a fragipan severely reduces plant growth.

**Friable** -A soil that is easily pulverized or crumbled.

*Affect:* A friable soil permits better moisture penetration, is more easily worked through a wider range of moisture content, provides better aeration and more readily releases plant nutrients.

**Grazing Season** -That portion of the year that livestock graze or are permitted to graze on a given range or pasture.

**Hayland** - Land used primarily for the production of hay from long-term stands of adapted forage plants.

**Highest and Best Use** - This is generally defined as that use which will generate the highest net return to the property over a period of time

**Horticultural Land** - Land which is used for the production of fruits, vegetables, flowers or ornamental plants.

**Infiltration** - The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is the movement of water through soil layers or materials.

*Affect:* Soils that have a rapid infiltration rate more readily absorb surface moisture thus reducing runoff and inhibiting erosion. It also provides a potential for increased available moisture capacity, depending on the subsoil characteristics.

**Irrigable Lands** – Lands having soil, topographic, drainage, and climatic conditions favorable for irrigation and located in a position where a water supply is or can be made available.

**Irrigation** - The artificial application of water to the soil for full crop production when the rainfall is not sufficient at the time of need or in arid regions.

**Land Capability** - The suitability of land for use without permanent damage.

**Land Valuation Groups** - Groups of soils that are similar in their productivity and their suitability for most kinds of farming. It is a practical classification based on the production and limitation of the soils; the risk of damage when they are used for the ordinary field crops, pastures, range and woodland; and the way they respond to treatment.

**Land Classification** - The arrangement of land units into categories based on the properties of the land or its suitability for some particular use.

**Leaching** - The removal of soluble material from the soil by percolating water.

*Affect:* Leaching rapidly depletes the natural chemical elements- (nitrogen, phosphorous, potassium, etc.) necessary for plant growth.

**Loam** - Soil that is seven to twenty-seven percent (7-27%) clay particles, twenty-eight to fifty percent (28-50%) silt particles and less than fifty-two percent (52%) sand particles.

*Affect:* That definition in itself does not tell much about production capability. A loam or silt loam texture has a more favorable mixture of silt, sand and clay. A moist loam has a smooth, velvety feel and will not slick out into a ribbon. From a crop production standpoint, loamy soils are more desirable than soils with a finer texture (clayey) or coarser texture (sandy). They are normally better aerated, have a higher natural fertility, better moisture availability and are more easily worked through a wider range of moisture.

**Loamy** - This refers to or includes a broad group or range of textures and includes silt loams, clay loams, sandy loams and loams. Generally, loamy soils range from moderately fine to medium to moderately coarse texture.

**Loess** - Areas of fine grained material, dominantly of silt sized particles, deposited by the wind.

*Affect:* Loess normally is considered a moderately fertile soil that consists of topsoil that has been blown from the surface of unprotected broad floodplain areas and deposited on higher lying areas. Natural fertility, soil texture and available water capacity normally result in a moderately productive soil.

**Mass Appraisal** - Mass appraisal of agricultural land refers to the process of valuing all the agricultural land at the same time in a uniform manner using a standard procedure and similar basic data.

**Meadow** - An area of natural or planted vegetation dominated by grasses and grass like plants used primarily for hay production.

**Mellow Soil** - A dirt that is a very friable, soft and porous soil, but is not hard or fine like clay systems.

**Soil Survey Report** - A written report with an accompanying map describing the area surveyed, the characteristics and capabilities for use of the soils, and the principal factors responsible for their formation.

**Soil Texture** - Refers to the relative proportion of sand, silt and clay particles in a mass of soil. Three principal sizes of particles are: (1) clay (less than .002 millimeters); (2) silt (0.002 to 0.05 millimeters) and (3) sand (0.05 to 2.0 millimeters). See "Clay", "Silt" and "Sand" for a general description of each.

**Soluble** - The ability of a soil to dissolve and release available nutrients from the soil for plant growth.

**Swag** - A depression in the earth surface. Sometimes causes a decrease in yields due to a standing water or a "ponding" problem in these areas.

**Undulation** - A series of wave type configurations in the surface of the soil. Sometimes causes wetness problems because of the inability of those areas to properly drain off excess water.

**Wasteland** - All areas that have insufficient value to be used economically due to inaccessibility, density of timber or sparseness of vegetative growth. Badlands, river wash, marshes and blowouts are examples.

**Water Table** - The upper surface of groundwater or that level below which the soil is saturated with water. The depth below the surface at which free water is found. Generally refers to the apparent water table, but can also be a perched or artesian condition.



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CHAPTER :

## ADMINISTRATION

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## 1.0 INTRODUCTION

This manual is being developed by the State Tax Commission to aid the offices of assessors in performing their official duties. Nothing in this manual gives anyone any greater rights than he or she would have by law, nor are its contents to be considered legal definitions or statements. The manual is based upon statutes, rules, and guidelines in effect at the time this manual was published, but are subject to change. If changes occur, the information contained in this manual may not reflect current law or policy. The Commission intends periodically to update the information contained herein; however, assessors are advised to verify the accuracy of the information with the State Tax Commission staff.

Included below is a short history, an overview of the duties and organizational chart of the State Tax Commission.

## 1.1 HISTORY OF THE STATE TAX COMMISSION

The State Tax Commission of Missouri in its current form was created by the Missouri Constitution of 1945. Article X, Section 14 of that constitution requires the General Assembly to create a tax commission for the purpose of performing three functions:

1. Equalization of assessments as between counties
2. To hear appeals from local boards of equalization in individual assessment cases
3. To perform such other duties as may be prescribed by law

The State Tax Commission is composed of three members, chosen from the two major political parties, appointed by the Governor with the advice and consent of the Senate. The Commissioners hold staggered terms of 6 years.

## 1.2 FUNCTIONS OF THE STATE TAX COMMISSION

### 1. Supervision of Assessment Practices and Equalization

One of the primary tasks performed by the Commission is the supervision of assessing officers and assessment practices in the state. In implementing its supervisory role, the Commission is in constant contact with the assessors of the state, communicating administrative, legal, appraisal and equalization advice to assist assessors in the performance of their duties.

## **2. Assessment Appeals**

One of the constitutional duties imposed upon the Commission is the hearing of assessment appeals in individual cases. Appeals generally are heard by a hearing officer of the Commission. A record of the proceedings is prepared and a decision and order including full findings of fact and conclusions of law is thereafter issued.

## **3. Original Assessment**

Under Sections 137.022, 138.420, Chapters 151, 153 and 155, RSMo, the Commission performs its duty of original assessment of distributable property held by public utilities, railroads, airlines and related entities. The Commission must "assess, adjust and equalize" the distributable property of these companies.

## **4. Ratio Study**

The State Tax Commission conducts ratio studies to determine the level of assessments and the quality of assessments in the counties of the state. The ratio study provides critical insight to the Commission to assist them in the equalization process. These studies also provide the analysis required to assist the assessor in the development of the biennial assessment maintenance plan addressing component parts of the assessment program. The Commission conducts both appraisals and a sales ratio study to measure the status of the assessment programs.

## **5. Inter-County Equalization**

One of the constitutional duties of the Commission is the equalization of the aggregate assessed valuation as between counties of real and tangible personal property.

## **6. Miscellaneous Functions**

The Commission has the responsibility to certify assessors who have completed a 32 hour course of

study concerning the assessment of ad valorem property taxes. Each assessor must complete a course of study approved by the Commission as a qualification for commencing or continuing in office.

The Commission has the general duty to study the tax laws and taxing systems of other states and make recommendations to the General Assembly on needed tax legislation.

The staff of the Commission is divided into five sections (See exhibit 1.1)

- 1 Administration**
- 2. Legal**
- 3. Ratio Study**
- 4. Technical Assistance**
- 5. Original Assessment**

(1) The Administration Section is under the direction of the Administrative Secretary, who is charged with the statutory duty to superintend the clerical business of the Commission, handle correspondence, supervise general office procedures, implement Commission policy, and perform such other duties as the Commission prescribes. An additional general duty is to certify assessors who have completed a 32 hour course of study concerning the assessment of ad valorem property taxes. Each assessor must complete a course of study approved by the Commission as a qualification for commencing or continuing in office.

(2) The Legal Section is under the direction of the Chief Counsel, who is charged with the responsibility to render legal advice to the Commission, handle litigation involving the State Tax Commission in the courts and coordinate legal matters with the Attorney General's Office. The Chief Counsel also has the duty of overseeing the attorneys who conduct hearings in assessment appeals before the Commission and assisting the Commission in the preparation of decisions and orders, including findings of fact and conclusions of law, in individual assessment appeals.

(3) The Ratio Study Section is charged with conducting ongoing ratio studies to verify assessment levels for equalization and uniformity. The section has a manager, as well as clerical and field personnel.

(4) The Original Assessment Section is charged with the Commission's annual duty to assess distributable property held by public utilities, railroads and other related entities.

(5) The Technical Assistance Section is composed of a manager and field staff whose primary duty is to assist counties in implementing their maintenance program and to provide additional assistance in any matters pertaining to assessment practices.



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## 2.0 HISTORY OF REASSESSMENT

The 1945 Constitution of Missouri requires that all real and tangible personal property be assessed at its value or a percentage of the value fixed by law. The courts have interpreted "value" to be synonymous with market value or true value in money. However, prior to 1979, this constitutional requirement was largely ignored, and assessments throughout the state lacked uniformity.

In 1979, the Missouri Supreme Court issued Cassilly v. Riney, 576 S.W.2d 325 (Mo. banc 1979) which held that the system of assessment in St. Louis County violated the uniformity provisions of the state constitution. The Supreme Court further stated that the State Tax Commission had the responsibility to resolve the assessment inequities in that county, and throughout the state, and possessed administrative powers commensurate with that task. Additionally, the case overruled a long line of Missouri cases which held that the State Tax Commission had no authority over intra-county equalization of assessments, but could only exert authority to equalize assessments on an aggregate basis between counties.

The State Tax Commission responded to the Cassilly case by ordering St. Louis County to submit a plan by July 2, 1979, for general revaluation of the county. The Commission also directed all other counties to supply a general plan for reassessment or a request for a hearing. Subsequently, all hearings for counties other than St. Louis County were completed and all counties in the state filed an approved plan for the equalization of real property assessment within their jurisdictions. The state legislature appropriated funds to partially reimburse counties for most costs associated with reassessment. The statewide reassessment program was completed and implemented in 1985. In 1987, a two-year assessment cycle commenced with property assessments being updated every odd-numbered year.

Assessors are now required, by Section 137.115.1 RSMo, to prepare and submit a two year assessment plan on or before January 1 of each even-numbered year. Such plan must be approved by the county commission and the State Tax Commission. Section 137.750 authorizes the state to reimburse one half of most of the costs of reassessment provided that the county is in compliance with its assessment and equalization maintenance plan.



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## 2.1 TAX DAY

Section 137.075 states:

*Every person owning or holding real property or tangible personal property on the first day of January, including all such property purchased on that day, shall be liable for taxes thereon during the same calendar year.*

With only a few minor exceptions, valuation date, ownership, situs and taxability are all determined on January 1 of the tax year. *Missouri has no statutory provision for prorating taxes (other than the limited instance of the Occupancy Law, section 137.082, discussed below).* Therefore, if a taxpayer owns a car on January 1 and sells it or moves out of the state on, say, January 2, he or she is liable for the taxes on that car for the entire year. Conversely, if a taxpayer buys a car on January 2 or moves into the state with the car on January 2 or later in the year, no taxes are owed on the car for that tax year.

Real estate is slightly different in that the debt for taxes runs with the land and not with the individual owner. See sections 137.170, 140.500, 141.240. Consequently, if Smith owns real property on January 1 and sells it to Jones in March, Smith may be unconcerned whether the taxes are paid. If they are not, the remedy is to sell the land for taxes, not obtain a judgment against Smith who owned the property on January 1. Obviously, almost all real estate closings provide for prorating the taxes between the parties to resolve any unfairness, but this is a private agreement between the parties and is wholly outside the assessment-taxation process.

Exceptions to the general rule that conditions on January 1 determine valuation date, ownership, situs, and taxability are:

1. The two-year cycle set out in Section 137.115 and Commission rules provide that in the even-numbered year the valuation is based upon economic conditions on January 1 of the immediately preceding odd-numbered year.
2. Missouri Courts have held that personal property does not have to be physically located in the jurisdiction on January 1 to be taxable, only that it must be more or less permanently located in the taxing jurisdiction. Sections 137.090, 137.095, and *Buchanan County v. State Tax Commission*, 407





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S.W.2d 910 (Mo. 1966).

3. If a political subdivision acquires property at any time during the tax year, it is immune from taxation for that year and all future years in which it retains ownership. *State ex rel. City of St. Louis v. Bauman*, 153 S.W.2d 31 (Mo. 1941). However, if an organization whose use of the property makes it exempt, such as a private school, church or charity, acquires otherwise taxable property after January 1, the property remains taxable for that entire year, but may be exempted thereafter if its use warrants it.

4. In counties which adopt provisions of the Occupancy Law embodied in Section 137.082, newly constructed and occupied residential real property can be assessed and taxed beginning on the first day of the month following occupancy for the proportionate part of the remaining year. Further, newly constructed residential property which has never been occupied is to be assessed as unimproved until such occupancy or the first day of January of the fourth year following the year in which construction of the improvements was completed. This statute also allows the pro rata removal from the tax rolls of any residential improvement destroyed by a natural disaster including a tornado, fire, flood, or earthquake. It is important to remember that these provisions apply only in counties adopting the Occupancy Law.

## 2.2 CLASSIFICATION OF PROPERTY

### 1. Classes

Ad valorem property tax assessments focus on two classes of property--real and tangible personal property. Art. X, Section 4, Mo. Const. and section 137.015 RSMo.

#### A. Real Property

##### (1) Definitions

Real property includes the land and all growing crops, buildings, structures, improvements, and fixtures of whatever kind. Section 137.010 RSMo.

Real property also includes the installed poles used in the transmission or reception of electrical



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energy, audio signals, video signals or similar purposes, provided the owner of the poles is also the fee simple owner, possessor of an easement, holder of a license or franchise, or is the beneficiary of a right-of-way dedicated for public utility purposes for the underlying land. The attached wires, transformers, amplifiers, substations, and other such devices and appurtenances used in the transmission or reception of electrical energy, audio signals, video signals, or similar purposes when owned by the owner of the installed poles is real property. If not owned by the owner of the installed poles, these items are considered personal property.

Additionally, real property includes the stationary property used for transportation of liquid and gaseous products including petroleum products, natural gas, water, and sewage.

#### **(2) Subclasses**

Real property is subclassified as 1) residential, 2) agricultural and horticultural, and 3) utility, industrial, commercial, railroad, and other property. Subclass definitions are fairly straight-forward and are found in section 137.016 RSMo.

Residential real property is assessed at 19% of its market value. Section 137.115.5 RSMo. It is important to remember that in addition to typical homes, condominiums and apartments, vacant land in connection with a golf course, manufactured home parks, and land used as a golf course are also subclassified as residential. Bed and breakfast are classified as residential if the owner resides in the B&B, it is the owner's primary residence, and the B&B has 6 or fewer rooms for rent. Hotels and motels subject to state sales tax pursuant to section 144.020.1(6) are not residential but commercial.

Agricultural and horticultural property which is actively used for such a purpose is assessed at 12% of its agricultural production value. Section 137.021 RSMo and State Tax Commission rule 12 CSR 30-4.010. Vacant and unused agricultural land is assessed at 12% of its market value. Sections 137.017.4 and 137.016.3 RSMo. Agricultural or horticultural buildings are assessed at 12% of their market value.

Utility, industrial, commercial, railroad and other real property, generally referred to as "commercial property" is assessed at 32% of its market value. Section 137.115.5 RSMo. This category is a catchall for property that does not fit in either of the other two classes and specifically includes property used directly or indirectly for commercial, mining, industrial, manufacturing, trade,



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professional, business, or a similar purpose. Real property centrally assessed pursuant to section 138.420 RSMo is included in this category.

### **B. Personal Property**

Personal property is assessed as follows:

Tools and equipment used for pollution control and tools and equipment used in retooling for the purpose of introducing new product lines or used for making improvements to existing products by any company which is located in a state enterprise zone.	25%
Manufactured Homes (used as residences)	19%
Farm Machinery and Livestock	12%
Historic Cars and Planes	5%
Grain	0.5%
Motor Vehicles and all other personal property	33.3%

### **C. Problem Areas in Classifying Property**

#### **(1) Fixtures**

Under Missouri case law, what would otherwise be personal property can be changed to real property, i.e., a fixture, under certain circumstances. The court decisions have been somewhat unpredictable in this area, but the basic test for determining whether or not something is a fixture has been fairly consistent. In *Cuivre River Electric v. State Tax Commission*, 769 S.W.2d 431 (Mo. 1989), the Missouri Supreme Court held that the elements to be studied are: 1. Whether the property has been annexed to the real property; 2. Whether the property has been adapted to fit its location; and 3. Whether the intent of the owner, as evidenced by acts and conduct, is that the property should remain permanently.

If these three elements are satisfied, the property in question should be assessed as real rather than personal property.



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#### (2) **Split Use**

It is common for a single property to have a split use. For instance, a farm very often has a portion of it, usually up to five acres, classified as residential. In urban areas, buildings are often subject to split use. The classic example is a building with a store on the first floor and residence on the second.

The Commission has held that greenhouses where plants are actually being grown should be classified as agricultural, but the area where the plants or flowers are sold should be commercial. Similarly, day care areas or offices in the home may be broken out as commercial if the assessor believes they constitute substantial uses.

In some circumstances, it is difficult to determine the percentage to be allotted to each class and the assessor must apply his or her best judgment.

#### (3) **Forest Land**

The distinction between active agricultural use and vacant and unused agricultural land, and the resulting assessment differential, has created problems for assessors. The problem is accentuated when a taxpayer claims that the active use is raising timber. While the Commission has ruled that timber is a crop, it is such a slow-growing crop it is often difficult to determine if the owner is actively attempting to produce timber.

The Commission recommends the assessor first determine if there is a predominant agricultural use or if the land is vacant, unused or held for future use. On forested land, an active agricultural use exists only if the acreage is a part of a larger, active farming operation or if there is evidence of a history of periodic timber harvests, a systematic plan for timber stand improvement, and/or substantial income derived from forest products.

If the assessor determines the predominate use is agricultural, the land should be assessed at 12% of its *productive value* pursuant to 12 CSR 30-4.010(2)(A).

If the assessor determines the land is vacant, unused, or held for future use, he or she should analyze the property pursuant to the eight factors in section 137.016 for determining its immediate most



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suitable economic use and classify it accordingly. If the land's immediate most suitable use is agricultural, it should be assessed at 12% of its *market value* pursuant to Section 137.017.

### (4) **Mining Property**

Section 137.115.17 RSMo. (2016) provides that any portion of real property that is available as reserve for strip, surface or coal mining, that has not been bonded or permitted, shall be assessed based upon how the property is being used.

## 2.3 PERSONAL PROPERTY

### 1. **Personal Property Lists and Penalties**

#### A. **All Counties Except City of St. Louis**

The following discussion applies to all counties except City of St. Louis, and is derived from Sections 137.280, 137.340 and 137.345.

Taxpayers' personal property lists, except those of merchants and manufacturers and those reporting local property of state-assessed companies (which are due April 1), shall be delivered to the assessor between January 1 and March 1 each year. These lists must be signed and certified by the taxpayer as being a true and complete list of all taxable tangible personal property owned or held by the taxpayer. In first class counties, taxpayers are to provide an estimate of the true value of the listed property.

Between March 1 and April 1, the assessor shall send a second notice to taxpayers who were originally sent a form but whose lists were not returned by March 1. If the lists are not then returned by May 1, the following penalties shall apply:

For lists due prior to tax year 2018:

Assessed Valuation	Penalty
0-\$1000	\$10
\$1001-\$2000	\$20
\$2001-\$3000	\$30



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\$3001-\$4000	\$40
\$4001-\$5000	\$50
\$5001-\$6000	\$60
\$6001-\$7000	\$70
\$7001-\$8000	\$80
\$8001-\$9000	\$90
\$9001 and above	\$100

For lists due tax year 2018 and thereafter:

<b>Assessed Valuation</b>	<b>Penalty</b>
0-\$1000	\$15
\$1001-\$2000	\$25
\$2001-\$3000	\$35
\$3001-\$4000	\$45
\$4001-\$5000	\$55
\$5001-\$6000	\$65
\$6001-\$7000	\$75
\$7001-\$8000	\$85
\$8001-\$9000	\$95
\$9001 and above	\$105

In Clay County, the assessor shall omit the penalty where he/she is satisfied the neglect was unavoidable and not willful or falls into one of the categories below. In all other political subdivisions (except City of St. Louis) the penalty shall be omitted if the assessor is satisfied the neglect falls into one of the following categories:

1. The taxpayer is in military service and is outside the state;
2. The taxpayer filed timely, but in the wrong county;
3. There was a loss of records due to fire, theft, fraud, or flood;
4. The taxpayer can show the list was mailed timely as evidenced by the date of postmark;
5. The assessor determines that no form for listing personal property was mailed to the taxpayer for that tax year;
6. The neglect occurred as a direct result of the actions or inactions of the county or its



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employees or contractors.

If a taxpayer provides the assessor with a fraudulent list with the intent to defraud, the assessor is to give written notice of the fraudulent list to the board of equalization. The board must give notice to the taxpayer of the particulars of the allegations of falsification and notice of a hearing date. If the board finds the list to be fraudulent, it is to ascertain the value of *all* the taxpayer's property and, by way of penalty, double the amount of taxes. Section 137.285.

#### **B. City of St. Louis**

By April 1, the taxpayers must file with the assessor a list of tangible personal property owned or controlled by them on January 1 of the tax year. Such a list must estimate the true value of the listed property. If any taxpayer fails to file a return, the assessor is to ascertain the value of the unreported property based upon the best information available and assess the property at 10% above its value. Sections 137.495, 137.505.

If the board of equalization, after notice and hearing, determines that a taxpayer is guilty of knowingly filing a false return, the board shall double the assessment of the taxpayer's property. Section 137.540. Such a taxpayer may also be subject to fine and/or imprisonment if a court decides the taxpayer made a false or fraudulent return with the intent to defeat or evade the assessment. Section 137.545.

### **2. Where To Tax Personal Property**

#### **A. Introduction**

Every owner or holder of tangible personal property on January 1, including property purchased on that day, is liable for the taxes on that property for that calendar year. See section 137.075 RSMo. If a Missouri resident owns property permanently located outside the state, Missouri political subdivisions have no right to tax it. The nature of the owner determines where taxable property within Missouri should be taxed, and owners generally fall into the following categories:

#### **B. Natural persons**



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Taxpayers who are not corporations, partnerships, or some other legal entity, are referred to as natural persons. Section 137.090 RSMo states that the personal property of these taxpayers shall be taxed in the *county where the taxpayers reside*. However, the following property owned by these taxpayers is taxed *where the property is located*:

1. Houseboats,
2. Cabin Cruisers,
3. Floating boat docks,
4. Manufactured homes used for lodging.

Further, tangible personal property of estates is to be taxed in the county in which the probate division of the circuit court has jurisdiction.

Personal property, other than motor vehicles as defined in section 301.010 RSMo, used exclusively in connection with farm operations of the owner and kept on the farmland, should not be assessed by a city, town, or village unless the farmland is totally within the boundaries of such a taxing entity.

#### **C. Corporations or Partnerships**

According to section 137.095 RSMo, corporate property is to be assessed in the county in which it is situated on January 1. The property does not have to actually be in the county on January 1 so long as it has a more or less permanent location in the county.

Motor vehicles owned by corporations are to be taxed in the county in which the motor vehicles are “based.” Based is defined as the place where the vehicle is most frequently dispatched, garaged, serviced, maintained, operated or otherwise controlled.

Leased passenger vehicles are to be assessed at the residence of the driver or, if that residence is unknown, at the location of the lessee.

#### **D. Non-Missouri Residents**

Tangible personal property belonging to residents of foreign countries or states other than Missouri should be taxed *where it is located*. In Brown v. Raines, STC Appeal Number 05-7302 (2006), the





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full commission found that a cabin cruiser owned by a resident of Kansas but kept in Morgan County had a sufficient nexus or contact with Missouri to be taxable in Morgan County. The case may be reviewed at the State Tax Commission's website: <http://www.stc.mo.gov/decisions.htm>.

#### **E. Military Personnel**

The assessment of the non-business personal property of military personnel still appears to be an area of confusion, judging from the number of calls we receive on this subject. The subject is further complicated by questions regarding the federal Soldiers and Sailors Relief Act of 1940. (*Now entitled Service Members Civil Relief Act 50 USC App. 571*) The United States Supreme Court has stated that service [people] shall not lose their residence or domicile at their home state solely by reason of being absent therefrom in compliance with military or naval orders, and that it does not relieve service (people) stationed away from home from all taxes of their state of domicile, but is to also relieve them of the burden of supporting multiple governments.

The effect of the Act is to treat military personnel as though they have never left their home state and county. Consequently, assessors must treat the tangible personal property of Missouri personnel stationed in other states or countries the same as if the taxpayer (and his/her property) were still present in the county. Conversely, the non-business personal property of any military personnel residing in a Missouri county under military orders is not taxable in Missouri.

The Attorney General issued an opinion (Burrell, Op. Att'y. Gen. No 95 (Feb 16, 1966) concluding that non-resident military personnel stationed in Missouri may obtain a certificate of no tax due (often called a waiver) from the collector and license their cars in Missouri without paying property tax on them. If the vehicle is registered jointly with a spouse, the vehicle may not be taxed in Missouri. As of 2009, if a military spouse is the sole owner, the vehicle should still be treated as if it is owned by the military personnel. Verification of a serviceperson's state of legal residence or SLR is easily ascertainable by looking at the bottom portion of their "Leave and Earnings Statement" (i.e., pay stub), which indicates the individuals claimed SLR.



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In November 2009, the President signed the *Military Spouses Residency Relief Act*, the act provides, among other things, that the military spouse shall neither lose nor acquire a residency for tax purposes by reason of being absent or present in any taxing jurisdiction solely to be with the service member in compliance with military orders if the residence is the same for the service member & spouse. Prior to this change, the State Tax Commission advised assessors that vehicles should not be assessed in Missouri if they were owned individually by the service member whose SLR was not Missouri or jointly by the service member and spouse. Accordingly, we also advised that if the spouse was the sole owner of the vehicle under these circumstances, the vehicle should be assessed.

The change in the federal law now requires a vehicle (or, other personal property) not to be taxed in Missouri if it is owned by the spouse of a service member whose SLR is not Missouri, and whose residence is the same as the service member's, even if the property is owned individually by the spouse. Conversely, personal property is taxable in Missouri if it is owned by the spouse of that service member stationed outside the state of Missouri but whose SLR is Missouri, even if the property is located outside Missouri, provided the residence of the spouse is the same as the service member's.



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#### F. Summary

TYPE OF OWNER	LOCATION OF PROPERTY	WHERE THE PROPERTY IS TAXED	LEGAL AUTHORITY
Natural Person Who Is Missouri Resident	In Missouri	County of Residence Except Items Specified in 137.090	137.075, RSMo 137.090, RSMo
Natural Person Who Is Missouri Resident	Outside Missouri	Not Taxable in Missouri	Case Law
Natural Person Who Is <u>NOT</u> Missouri Resident	In Missouri	County Where Property Is Located	Case Law
Corporation	In Missouri	County Where Property Is Located	137.095, RSMo
Military Person (and Spouse) Who Is <u>NOT</u> Missouri Resident	In Missouri	Nontaxable in Missouri--Except Business Personal Property	Federal Law 50 USC 571
Military Person (and Spouse) Who Is Missouri Resident	In or Outside Missouri	In Missouri County Where They Entered The Service	<b>Federal Law</b> <b>50 USC 571</b> The federal Servicemembers Civil Relief Act (formerly Soldiers and Sailors Relief Act of 1940)

### 3. TAXATION OF INSTRUMENTALITIES OF INTERSTATE COMMERCE

#### A. TAXABILITY

Article I, Section 8 of the United States Constitution gives the power to regulate commerce among the various states to the United States Congress. The federal courts, after much litigation, have held that states may tax instrumentalities of interstate commerce if the tax does not violate the commerce clause, equal protection or due process. The test developed is that (1) the property must have a substantial nexus (contact or relationship) with the taxing jurisdiction, (2) the tax must be fairly apportioned, (3) it must not discriminate against interstate commerce, and (4) it must be fairly related to the services rendered by the state.

#### B. TRUCKS INVOLVED IN INTERSTATE COMMERCE

##### (1) Assessment Procedure



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#### (a) **Identifying Trucks Engaged in Interstate Commerce**

Trucks owned by an individual are to be taxed in the county where the owner resides. Section 137.090. Trucks owned by a corporation and subject to the Missouri Motor Carrier Act (Chapter 390) are to be taxed where they are based. Section 137.095. "Based" means the place where the vehicle is most frequently dispatched, garaged, serviced, maintained, operated or otherwise controlled. See also section 2.3.2 of this manual entitled "Where to Tax Personal Property."

Even though January 1 is the assessment date, the courts have held that trucks having sufficient contacts to establish a taxable situs may be taxed even if they do not have an actual presence in the jurisdiction on January 1. *Buchanan v. State Tax Commission*, 407 S.W.2d 910, 914 (Mo. 1966) and *Beelman Truck Company v. Ste. Genevieve County Board of Equalization*, 861 S.W.2d 557, 558 (Mo. banc 1993).

Assessors are provided with mileage figures by the Motor Carriers Service (Telephone 573-751-7100). As a practical matter, when the mileage figures are provided on Motor Carriers' list, it is easier for the assessor to apply the apportionment formula than to require each owner/user to provide mileage figures. However, if the figures are either unavailable or are inaccurate for a particular vehicle, the burden is on the taxpayer to provide accurate mileage information and proof that the truck has acquired a taxable situs in another state. Often such evidence is also required on trailers which are not paired with trucks and trucks weighing less than 26,000 pounds. Trailers and lighter trucks are not reported by Motor Carriers but often have authority to engage in interstate commerce. Another instance in which trucks are not reported by Motor Carrier Services is when those trucks register in another state but maintain a base in Missouri. This was the situation in the *Beelman* case, cited above. In such cases, the owner or user of the truck should report the percentage of Missouri miles for apportionment purposes. If he or she refuses to do so, the full value of the trucks should be attributed to Missouri until the information is forthcoming.

Many trucks are held and used by lessees. Missouri law provides that taxes may be assessed against the owner or holder of property. Section 137.075. The assessor has the option of assessing the lessee or the owner. The burden is again upon the taxpayer to notify the assessor if the property should be assessed in the owner's name. A personal judgment can be obtained against the party assessed and any of that person's property can be attached to satisfy the tax lien. See Sections 140.730 through



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140.750.

If a truck could be taxed by two counties, either because of an owner-lessee arrangement or because a company has two or more bases in Missouri, the assessors must determine among themselves which county has the predominant control or contact with the truck or trucks.

### (2) Assessment and Apportionment

In 1983, the Commission issued an order to all assessors to apportion interstate truck assessments. The order remains in effect and was upheld by the Missouri Supreme Court in *Beelman Truck Company v. Ste. Genevieve County Board of Equalization*, 861 S.W.2d 557, 560 (Mo banc 1993). Further, Section 137.090 RSMo. (2013) provides that tractors and trailers shall be apportioned to Missouri based on the ratio of miles traveled in this state to miles traveled in the United States during the preceding tax year or on the basis of the most recent annual mileage figures.

The order's and statute's apportionment formula is as follows:

Individual Trucks: True value of the truck x the percent of miles attributable to Missouri x 33 1/3%.

Truck Fleets: True value of all trucks x the percent of Missouri miles of all trucks x 33 1/3%.

### (3) Boats and Barges

Prior to 1995, the Commission recommended that if a boat or barge has a taxable situs in the county, the assessor should assess it and, if the boat or barge is engaged in interstate commerce, should apportion the value based upon miles similar to trucks. However, in 1995, the Supreme Court of Missouri issued *State of Missouri ex rel. Ronald Leggett v. Sovran Leasing Corp.* The court based its decision upon §154.010 which was enacted in its current form in 1879. Subsection 154.010.1 makes steamboats and other boats and vessels a special class of property. Subsection 154.010.2 reads as follows:

All taxes on such property shall be assessed and collected in the county or city in which the owner or owners of said property may reside at the time of assessment.

The court held that a jurisdiction could only tax the steamboats and other boats and vessels if the owners resided within that county or city. The court stated "... the legislature might now impose a properly apportioned tax upon such transitory interstate maritime property, it simply has not done



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so.”

Thus, steamboats, barges, and other boats and vessels can only be assessed in the county or city in which the owner or owners reside. No statute exists which allows the taxation of non-resident owners of such property.

#### **(4) Aircraft**

Commercial aircraft operated in this state in air commerce which are owned by airline companies are state-assessed by the State Tax Commission. Small aircraft are assessed by the local assessor similar to other personal property. However, a special procedure exists for assessing aircraft not owned by airline companies which when fully equipped for flight have a maximum certified gross take-off weight of over three thousand pounds.

The procedure for assessing these planes and appealing such assessments, set out in Section 155.040, is as follows:

- A.** The owner or holder of such aircraft must notify the assessor of the claim of “commercial aircraft” upon the return of the personal property list to the assessor. Otherwise, the aircraft is assessed without apportionment, similar to other locally assessed personal property.
- B.** By May 1, the assessor shall provide the State Tax Commission with any information compiled from personal property lists necessary for the Commission to assess the aircraft. Upon request, the taxpayer is to provide any additional information needed by the Commission.
- C.** The Commission shall allocate to Missouri the portion of the total valuation of the aircraft based upon the ratio which the miles flown by the commercial aircraft within Missouri bears to the total miles flown by the aircraft during the immediately preceding calendar year.
- D.** The Commission shall certify all values of such commercial aircraft to the taxpayer and the clerks of the respective counties. Pursuant to 12 CSR 30-2.021, the Commission is prohibited from certifying the apportioned value of aircraft after September first of the tax year.



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E. The owners of such aircraft may appeal directly to the Commission by August 15 without first appealing to the local board of equalization.

#### (5) **Business Personal Property**

##### A. **Procedure for Assessing Business Personal Property**

In 2005, §137.122, RSMo was enacted into law to provide for uniform assessment of business personal property beginning in 2007 for property put into service after January 1, 2006. "Business personal property" is defined by subsection 137.122.1(1) as:

[T]angible personal property which is used in a trade or business or used for production of income and which has a determinable life of longer than one year except that supplies used by a business shall also be considered business personal property, but shall not include livestock, farm machinery, grain and other agricultural crops in an unmanufactured condition, property subject to the motor vehicle registration provisions of chapter 301, RSMo, property assessed under section 137.078, the property of rural electric cooperatives under chapter 394, RSMo, or property assessed by the state tax commission under chapters 151, 153, and 155, RSMo, section 137.022, and sections 137.1000 to 137.1030

To establish the assessment under that section, the following process must be followed:

1. The original cost paid by the current owner, less freight, installation, and sales or use taxes and date of purchase is reported by the owner. Assessors may access sample forms at [www.moassessorsassn.org/](http://www.moassessorsassn.org/) in the "Assessor Use Only" section.
2. The Class Life and Recovery period is determined by using IRS Publication 946, Appendix B, Table B-1 & B-2 – Table of Class Lives and Recovery Periods (see cite to IRS internet source below).
3. The assessor applies the proper depreciation schedule found in §137.122.3, RSMo, by applying the years since acquisition and the appropriate recovery period to determine the appraised value.
4. The appraised value is multiplied by the statutory assessment level for personal property, 33 1/3% to establish the assessed value.



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Example: To determine the 2007 value of a special mold used for manufacturing motor vehicles, bought in February 2006 for \$100,000 the process would be as follows:

1. The cost and acquisition date is reported by the owner.
2. A recovery period of 3 years is determined (Asset Class 37.2) by using Publication 946.
3. Because the statute instructs that “the percentage shown for the first year shall be the percentage of the original cost used for January first of the year following the year of acquisition,” a depreciation factor of 75% is used. In other words, by using the table in section 137.122.3, and applying a Recovery Period 3 and using Year 1, 75% is indicated. Then multiply 75% by the cost, \$100,000, for an appraised value of \$75,000.
4. Multiply \$75,000 by 33 1/3% (the assessment level) to determine an assessed value of \$25,000.

### **B. Determining Recovery Periods Under §137.122, RSMo**

To assess business personal property (BPP) pursuant to §137.122, RSMo, an assessing officer must determine the recovery period for each item. The Class Lives and Recovery Periods found in IRS Publication 946, Appendix B, Table B-1 & B-2 – Table of Class Lives and Recovery Periods provide the information necessary to establish these recovery periods. They are identified as GDS (MACRS) in Publication 946, where a detailed description of each of the asset classes can be found. To determine exactly how BPP should be depreciated, it is necessary to read the exact description from Publication 946, pages 98 through 107. An Adobe-Acrobat Reader is required to view, download, or print the publication. To access Publication 946, go to [www.irs.gov/pub/irs-pdf/p946.pdf](http://www.irs.gov/pub/irs-pdf/p946.pdf),

The State Tax Commission, utilizing IRS Publication 946, provides a quick reference in two formats below:

1. List of BPP Groups by Recovery Period The recovery periods established by §137.122, RSMo are 3, 5, 7, 10, 15 and 20 years. Accordingly, the first listing covers various groups of BPP organized by the length of the recovery periods applicable under MACRS. The depreciation factors (percent good of price paid by current owner for the item without freight, installation, or sales or use tax) established by §137.122, RSMo applicable to each group are also provided. The percent good factor is simply determined by matching the recovery period with the years since placed in service.

2. Alphabetical Listing of BPP Groups The second listing provides each type of property alphabetically followed by the *Asset Class* numbers and recovery period for that type of asset.

**NOTE: The listings below are abbreviated versions of the more detailed descriptions**





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found in Publication 946. That publication must be consulted to accurately determine recovery periods.

#### **(1) LIST OF BPP GROUPS BY RECOVERY PERIOD**

##### **3 Year--Business Personal Property with 3 Year Recovery Period**

Property within the 3 year recovery period is depreciated by years in service as follows:  
Year 1 – 75%; Year 2 – 37.5%; Year 3 – 12.5%; Year 4 and Subsequent Years – 5%

BPP falling in this recovery period are listed below, followed by the identifying Asset Class number from Publication 946.

BPP used in the manufacture of:

1. **Food and Beverages** – Special Handling Devices (Asset Class 20.5)
2. **Rubber Products** – Special Tools and Devices (Asset Class 30.11)
3. **Finished Plastic Products** – Special Tools (Asset Class 30.21)
4. **Glass Products** – Special Tools (Asset Class 32.11)
5. **Fabricated Metal Products** – Special Tools (Asset Class 34.01)
6. **Motor Vehicles** – Special Tools such as jigs, dies, molds, etc., used in the manufacture of motor vehicles (Asset Class 37.12)

##### **5 Year--Business Personal Property with 5 Year Recovery Period**

Property within the 5 year recovery period is depreciated by years in service as follows:  
Year 1 – 85%; Year 2 – 59.5%; Year 3 – 41.65%; Year 4 – 24.99%; Year 5 and Subsequent Years – 10%

BPP falling in this recovery period are listed below, followed by the identifying Asset Class number from Publication 946.

1. **Information Systems and Data Handling Equipment (Including Computers)** used in all business activities for administering normal business transactions and the maintenance of business record (Asset Class 00.12 & 00.13)
2. **Trailers and Trailer-Mounted Containers** (Asset Class 00.27)
3. Assets used in **Construction** (Asset Class 15.0)
4. Assets used in **Cutting of Timber** (Asset Class 24.1)
5. Assets used in **Sawing of Dimensional Stock from Logs** when sawmill is on temporary foundation (Asset Class 24.3)
6. Any **Semiconductor Manufacturing Equipment** (Asset Class 36.1)
7. **Ship and Boat Building** – Special Tools (Asset Class 37.33)
8. **Computer-based Telephone Central Office Switching Equipment** (Asset Class 48.121)



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9. **Radio and Television Broadcastings** – Telegraph, Ocean Cable and Satellite Communications (TOCSC)( Asset Class 48.2)
10. **Satellite Space Segment Property** (TOCSC) (Asset Class 48.37)
11. **CATV** – Program Origination (Asset Class 48.43)
12. **CATV** – Service and Test (Asset Class 48.44)
13. **CATV** – Microwave Systems (Asset Class 48.45)
14. **Electric Utility Nuclear Fuel Assemblies** (Asset Class 49.121)
15. **Distributive Trades and Services** (Asset Class 57.0)
- And assets used in the manufacture of:*
16. **Knitted Goods** (Asset Class 22.1)
17. **Carpets and Dyeing, Finishing, and Packaging of Textile Products and Manufacture of Medical and Dental Supplies** (Asset Class 22.3)
18. **Textile Yarns** (Asset Class 22.4)
19. **Apparel** and Other Finished Products (Asset Class 23.0)
20. **Chemicals** and Allied Products (Asset Class 28.0)
21. **Primary Nonferrous Metals** – Special Tools used in the smelting and refining of nonferrous metals. (Asset Class 33.21)
22. **Electronic Components, Products, and Systems** (Asset Class 36.0)

### **7 Year--Business Personal Property with 7 Year Recovery Period**

Property within the 7 year recovery period is depreciated by years in service as follows:  
Year 1 – 89.29%; Year 2 – 70.16%; Year 3 – 55.13%; Year 4 – 42.88%; Year 5 – 30.63%; Year 6 – 18.38%; Year 7 and subsequent years – 10.00%.

BPP falling in this recovery period are listed below, followed by the identifying Asset Class number from Publication 946.

1. **Office Furniture, Fixtures and Equipment** used in all business activities such as desks, files, safes and communications equipment, does not include communications equipment in other classes (Asset Class 00.11)
2. **Cotton Ginning Assets** (Asset Class 1.11)
3. **Mining** assets used in the mining and quarrying of metallic and nonmetallic minerals (Asset Class 10)
4. Assets used in **Sawing of Dimensional Stock from Logs when sawmill is on permanent foundation or well-established.** (Asset Class 24.2)
5. Assets used in **Ship and Boat Building Machinery and Equipment** (Asset Class 37.31)
6. Assets used in **Printing, Publishing, and Allied Industries** (Asset Class 27.0)
7. **Railroad Machinery and Equipment** (Asset Class 40.1)
8. **Railroad Track** (Asset Class 40.4)



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9. Assets used in **Air Transport** (Asset Class 45.0)
10. **Telephone Station Equipment** (Asset Class 48.13)
11. **Telegraph, Ocean Cable, and Satellite Communications (TOCSC) – High Frequency Radio and Microwave Systems** (Asset Class 48.32)
12. **Computerized Switching, Channeling, and Associated Control Equipment (TOCSC)** (Asset Class 48.35)
13. **Telegraph, Ocean Cable, and Satellite Communications (TOCSC)** (Asset Class 48.36)
14. **Equipment Installed on Customer's Premises (TOCSC)** (Asset Class 48.38)
15. **TOCSC – Support and Service Equipment – Cable Television (CATV)** (Asset Class 48.39)
16. **CATV – Headend** (Asset Class 48.41)
17. **CATV – Subscriber Connection and Distribution Systems** (Asset Class 48.42)
18. **Gas Utility Substitute Natural Gas (SNG) Production Plant** (Asset Class 49.222)
19. **Natural Gas Production Plant** (Asset Class 49.23)
20. **Waste Reduction and Resource Recovery Plants** (Asset Class 49.5)
21. **Recreation** (Asset Class 79)
22. **Theme and Amusement Parks** (Asset Class 80.0)

*And, assets used in the Manufacture of:*

23. **Other Food and Kindred Products** (Asset Class 20.4)
24. **Tobacco and Tobacco Products** (Asset Class 21.0)
25. **Yarn, Thread and Woven Fabric** (Asset Class 22.2)
26. **Non-woven Fabrics** (Asset Class 22.5)
27. **Wood Products, and Furniture** (Asset Class 24.4)
28. **Pulp and Paper** (Asset Class 26.1)
29. **Converted Paper, Paperboard and Pulp Products** (Asset Class 26.2)
30. **Rubber Products** (Asset Class 30.1 )
31. **Finished Plastic Products** (Asset Class 30.2)
32. **Leather and Leather Products** (Asset Class 31.0)
33. **Glass Products** (Asset Class 32.1)
34. **Other Stone and Clay Products** (Asset Class 32.3)
35. **Primary Nonferrous Metals, special tools used in the manufacture of** (Asset Class 33.2)
36. **Foundry Products** (Asset Class 33.3)
37. **Primary Steel Mill Products** (Asset Class 33.4)
38. **Fabricated Metal Products** (Asset Class 34.0)
39. **Electrical and Non-electrical Machinery and Other Mechanical Products** (Asset Class 35.0)
40. **Motor Vehicles, assets used in the manufacture of** (Asset Class 37.11)
41. **Aerospace Products** (Asset Class 37.2)



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- 42. **Locomotives** (Asset Class 37.41)
- 43. **Railroad Cars** (Asset Class 37.42)
- 44. **Athletic, Jewelry, and Other Goods** (Asset Class 39.0)

#### **10 Year--Business Personal Property with 10 Year Recovery Period**

Property within the 10 year recovery period is depreciated by years in service as follows:  
Year 1 – 92.50%; Year 2 – 78.62%; Year 3 – 66.83%; Year 4 – 56.81%; Year 5 – 48.07%;  
Year 6 – 39.33%; Year 7 – 30.59%; Year 8 – 21.85%; Year 9 and subsequent years – 15.00%

Business personal property falling in this recovery period are listed below, followed by the identifying Asset Class number from Publication 946.

- 1. **Vessels, Barges, Tugs, and Similar Water Transportation Equipment**, except those used in marine construction (Asset Class 00.28)
- 2. **Petroleum Refining** (Asset Class 13.3)
- 3. **Telephone Central Office Equipment** (Asset Class 48.12)
- 4. **TOCSC – Electric Power Generating and Distribution Systems** (Asset Class 48.31)
- 5. **TOCSC – Central Office Control Equipment** (Asset Class 48.34)

*And assets used in the Manufacture of:*

- 6. **Grain and Grain Mill Products** (Asset Class 20.1)
- 7. **Vegetable Oils and Vegetable Oil Products** (Asset Class 20.3)
- 8. **Ship and Board building Dry Docks and Land Improvements** (Asset Class 37.32)
- 9. **Sugar and Sugar Products** (Asset Class 20.2)
- 10. **Substitute Natural Gas – Coal Gasification** (Asset Class 49.223)

#### **15 Year--Business Personal Property With 15 Year Recovery Period**

Property within the 15 year recovery period is depreciated by years in service as follows:  
Year 1 – 95.00%; Year 2 – 85.50%; Year 3 – 76.95%; Year 4 – 69.25%; Year 5 – 62.32%; Year 6 – 56.09%; Year 7 – 50.19%; Year 8 – 44.29%; Year 9 – 38.38%; Year 10 – 32.48%; Year 11 – 26.57%; Year 12 – 20.67%; Year 13 and subsequent years – 15.00%

Business personal property falling in this recovery period are listed below, followed by the identifying Asset Class number from Publication 946.

- 1. Assets used in the **Manufacture of Cement** (Asset Class 32.2)
- 2. **Railroad Nuclear electric Generating Equipment** (Asset Class 40.52)
- 3. **Water Transportation** (Asset Class 44.0)



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**20 Year--Business Personal Property With 20 Year Recovery Period**

Property within the 20 year recovery period is depreciated by years in service as follows:  
Year 1 – 96.25%; Year 2 – 89.03%; Year 3 – 82.35%; Year 4 – 76.18%; Year 5 – 70.46%; Year 6 – 65.18%; Year 7 – 60.29%; Year 8 – 55.77%; Year 9 – 51.31%; Year 10 – 46.85%; Year 11 – 42.38%; Year 12 – 37.92%; Year 13 – 33.46%; Year 14 – 29.00%; Year 15 – 24.54%; Year 16 – 20.08; Year 17 and subsequent years– 20.00%

1. **Railroad Hydraulic Electric Generating Equipment** (Asset Class 40.51)
2. **Railroad Steam Electric Generating Equipment** (Asset Class 40.53)
3. **Railroad Steam, Compressed Air and Other Power Plant Equipment**  
(Asset Class 40.54)
4. **TOCSC – Cable and Long Line Systems** (Asset Class 48.33)
5. **Electric, Gas, Water and Steam, Utility Services; Electric Utility Hydraulic Production Plant; Electric Utility Steam Production Plant; Electric Utility Transmission and Distribution Plant; Gas Utility Distribution Facilities; Gas Utility Manufactured Gas Production Plants; Water Utilities & Central Steam Utility Production and Distribution** (Asset Classes 49.11, 49.13, 49.14 49.21, 49.221, 49.3, 49.4 & 51)



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## **(2) ALPHABETICAL LISTING OF BPP GROUPS**

**Aerospace Products** (Asset Class 37.2) —7 years

**Air Transport**, assets used in (Asset Class 45.0) —7 years

**Apparel and Other Finished Products**, assets used in the manufacture of, (Asset Class 23.0) —5 years

**Athletic Goods, Jewelry, and Other Goods** (Asset Class 39.0) —7 years

**Broadcasting--Radio and Television Broadcastings**—See section 137.078, RSMo for assessment of broadcasting equipment.

**CATV – Headend** (Asset Class 48.41) —7 years

**CATV – Microwave Systems** (Asset Class 48.45) —5 years

**CATV – Program Origination** (Asset Class 48.43) —5 years

**CATV – Service and Test** (Asset Class 48.44) —5 years

**CATV – Subscriber Connection and Distribution Systems** (Asset Class 48.42) —7 years

**CATV-- Support and Service Equipment – Cable Television** (Asset Class 48.39) —7 years

**Cement**, assets used in the manufacture of (Asset Class 32.2) —15 years

**Chemicals and Allied Products**, assets used in the manufacture of (Asset Class 28.0) —5 years

**Computers--Information Systems and Data Handling Equipment** used in all business activities for administering normal business transactions and the maintenance of business records (Asset Class 00.12 & 00.13)—5 years

**Construction**, assets used in (Asset Class 15.0) —5 years

**Converted Paper, Paperboard and Pulp Products**, assets used in the manufacture of (Asset Class 26.2) —7 years

**Cotton Ginning Assets** (Asset Class 1.11) —7 years

**Distributive Trades and Services** (Asset Class 57.0) —5 years

**Electric Utility Nuclear Fuel Assemblies** (Asset Class 49.121) —5 years

**Electric Utility**—See, **Utilities**

**Electrical and Non-electrical Machinery and Other Mechanical Products** (Asset Class 35.0) —7 years

**Electronic Components, Products, and Systems**, assets used in the manufacture of (Asset Class 36.0) —5 years

**Fabricated Metal Products – Special Tools** (Asset Class 34.01)—3 years

**Fabricated Metal Products**, assets used in the manufacture of (Asset Class 34.0) —7 years



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**Finished Plastic Products** – Special Tools (Asset Class 30.21)—3 years

**Finished Plastic Products**, assets used in the manufacture of (Asset Class 30.2) —7 years

**Food and Beverages** – Special Handling Devices (Asset Class 20.5) 3 years

**Food and Kindred Products**, assets used in the manufacture of (Asset Class 20.4) —7 years

**Foundry Products** (Asset Class 33.3) —7 years

**Gas Utility Substitute Natural Gas (SNG) Production Plant** (Asset Class 49.222) —7 years

**Gas Utility**—See, Utilities

**Glass Products** – Special Tools (Asset Class 32.11)—3 years

**Glass Products**, assets used in the manufacture of (Asset Class 32.1) —7 years

**Grain and Grain Mill Products**, assets used in the manufacture of (Asset Class 20.1) —10 years

**Information Systems and Data Handling Equipment** used in all business activities for administering normal business transactions and the maintenance of business records (Asset Class 00.12 & 00.13)—5 years

**Knitted Goods**, assets used in the manufacture of (Asset Class 22.1)—5 years

**Leather and Leather Products**, assets used in the manufacture of (Asset Class 31.0) —7 years

**Locomotives** (Asset Class 37.41) —7 years

**Metals--Fabricated Metal Products** – Special Tools (Asset Class 34.01)—3 years

**Metals--Fabricated Metal Products**, assets used in the manufacture of (Asset Class 34.0) —7 years

**Metals--Primary Nonferrous Metals**, special tools, such as dies jigs, molds, etc., used in the manufacture of (Asset Class 33.21) —5 years

**Metals—Primary Nonferrous Metals**, assets used in the smelting and refining of (Asset Class 33.2) —7 years

**Mining** assets used in the mining and quarrying of metallic and nonmetallic minerals (Asset Class 10) – 7 years

**Motor Vehicles** – Special Tools such as jigs, dies, molds, etc., used in the manufacture of motor vehicles (Asset Class 37.12) – 3 years

**Motor Vehicles**, assets used in the manufacture of (Asset Class 37.11) – 7 years

**Natural Gas Production Plant** (Asset Class 49.23) —7 years

**Non-woven Fabrics**, assets used in the manufacture of (Asset Class 22.5) —7 years



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**Office Furniture, Fixtures and Equipment** used in all business activities such as desks, files, safes and communications equipment, does not include communications equipment in other classes (Asset Class 00.11)—7 years

**Paper--Converted Paper, Paperboard and Pulp Products**, assets used in the manufacture of (Asset Class 26.2) —7 years

**Parks--Theme and Amusement Parks** (Asset Class 80.0) —7 years

**Petroleum Refining** (Asset Class 13.3) —10 years

**Plastics--Finished Plastic Products – Special Tools** (Asset Class 30.21)—3 years

**Plastics--Finished Plastic Products**, assets used in the manufacture of (Asset Class 30.2) —7 years

**Primary Nonferrous Metals**, special tools, such as dies jigs, molds, etc., used in the manufacture of (Asset Class 33.21) —5 years

**Primary Nonferrous Metals**, assets used in the smelting and refining of (Asset Class 33.2) —7 years

**Primary Steel Mill Products** (Asset Class 33.4) —7 years

**Printing, Publishing, and Allied Industries**, assets used in (Asset Class 27.0) —7 years

**Production Plant; Electric Utility Steam Production Plant; Electric Utility Transmission and Distribution Plant; Gas Utility Distribution Facilities; Gas Utility Manufactured Gas Production Plants; Water Utilities & Central Steam Utility Production and Distribution** (Asset Classes 49.11, 49.13, 49.14 49.21, 49.221, 49.3, 49.4 & 51) —20 years

**Pulp and Paper**, assets used in the manufacture of (Asset Class 26.1) —7 years

**Railroad Cars** (Asset Class 37.42) —7 years

**Railroad Hydraulic Electric Generating Equipment** (Asset Class 40.51) —20 years

**Railroad Machinery and Equipment** (Asset Class 40.1) —7 years

**Railroad Nuclear electric Generating Equipment**, assets used in the manufacture of (Asset Class 40.52) —15 years

**Railroad Steam Electric Generating Equipment** (Asset Class 40.53) —20 years

**Railroad Steam, Compressed Air and Other Power Plan Equipment** (Asset Class 40.54) —20 years

**Railroad Track** (Asset Class 40.4) —7 years

**Railroads-- Locomotives** (Asset Class 37.41) —7 years

**Recreation** (Asset Class 79) —7 years

**Rubber Products – Special Tools and Devices** (Asset Class 30.11) 3 years

**Rubber Products**, assets used in the manufacture of (Asset Class 30.1) —7 years

**Satellite Space Segment Property (TOCSC)** (Asset Class 48.37) —5 years

**Sawing of Dimensional Stock from Logs**, assets used in permanent or well-established





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sawmills (Asset Class 24.2) —7 years

**Sawing of Dimensional Stock from Logs**, assets used in sawmill on temporary foundation (Asset Class 24.3)—5 years

**Semiconductor Manufacturing Equipment** (Asset Class 36.1) —5 years

**Ship and Boat Building Dry Docks and Land Improvements**, assets used in the manufacture of (Asset Class 37.32) —10 years

**Ship and Boat Building – Special Tools** (Asset Class 37.33) —5 years

**Ship and Boat Building Machinery and Equipment**, assets used in (Asset Class 37.31) —7 years

**Steel-Primary Steel Mill Products** (Asset Class 33.4) —7 years

**Stone and Clay Products**, assets used in the manufacture of (Asset Class 32.3) —7 years

**Substitute Natural Gas – Coal Gasification**, assets used in the manufacture of (Asset Class 49.223) —10 years

**Sugar and Sugar Products**, assets used in the manufacture of (Asset Class 20.2) —10 years

**Telegraph, Ocean Cable, and Satellite Communications, See, TOCSC**

**Telephone Central Office Equipment** (Asset Class 48.12) —10 years

**Telephone Station Equipment** (Asset Class 48.13) —7 years

**Telephone--Computer-based Telephone Central Office Switching Equipment** (Asset Class 48.121) —5 years

**Textile Yarns**, assets used in the manufacture of (Asset Class 22.4) —5 years

**Textiles-- Yarn, Thread and Woven Fabric**, assets used in the manufacture of (Asset Class 22.2) —7 years

**Textiles--Carpets and Dyeing, Finishing, and Packaging of Textile Products and Manufacture of Medical and Dental Supplies**, assets used in the manufacture of (Asset Class 22.3) —5 years

**Textiles—Non-woven Fabrics**, assets used in the manufacture of (Asset Class 22.5) —7 years

**Theme and Amusement Parks** (Asset Class 80.0) —7 years

**Timber**, Assets used in **Cutting of Timber** (Asset Class 24.1) —5 years

**Tobacco and Tobacco Products**, assets used in the manufacture of (Asset Class 21.0) —7 years

**TOCSC – Broadcasting Equipment** (Asset Class 48.2) —5 years

**TOCSC – Cable and Long Line Systems** (Asset Class 48.33) —20 years

**TOCSC – Central Office Control Equipment** (Asset Class 48.34) —10 years

**TOCSC – Electric Power Generating and Distribution Systems** (Asset Class 48.31) —10 years

**TOCSC – High Frequency Radio and Microwave Systems** (Asset Class 48.32) —7 years



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**TOCSC-- Satellite Space Segment Property (TOCSC) (Asset Class 48.37) —5 years**  
**TOCSC--Computerized Switching, Channeling, and Associated Control Equipment**  
(Asset Class 48.35) —7 years

**TOCSC--Equipment Installed on Customer's Premises (Asset Class 48.38) —7 years**  
**TOCSC--Telegraph, Ocean Cable, and Satellite Communications (Asset Class**  
48.36)—7 years

**Trailers and Trailer-Mounted Containers (Asset Class 00.27) —5 years**

**Utilities--Production Plant; Electric Utility Steam Production Plant; Electric Utility**  
**Transmission and Distribution Plant; Gas Utility Distribution Facilities; Gas**  
**Utility Manufactured Gas Production Plants; Water Utilities & Central Steam**  
**Utility Production and Distribution (Asset Classes 49.11, 49.13, 49.14, 49.21, 49.221,**  
49.3, 49.4 & 51) —20 years

**Vegetable Oils and Vegetable Oil Products, assets used in the manufacture of (Asset**  
Class 20.3) – 10 years

**Vessels, Barges, Tugs, and Similar Water Transportation Equipment, except those**  
used in marine construction (Asset Class 00.28) —10 years

**Waste Reduction and Resource Recovery Plants (Asset Class 49.5) —7 years**

**Water Transportation (Asset Class 44.0) —15 years**

**Water Utilities—See, Utilities**

**Wood Products, and Furniture, assets used in the manufacture of (Asset Class 24.4)—**  
7 years

**Yarn, Thread and Woven Fabric, assets used in the manufacture of (Asset Class 22.2)**  
—7 years

## 2.4 EXEMPTIONS-OVERVIEW OF EXEMPTION LAWS OF THIS STATE

Deciding whether or not to exempt a property from taxation is often one of the most difficult decisions facing an assessor. Many worthy not-for-profit organizations which qualify for a sales tax exemption or federal not-for-profit status do not qualify for an ad valorem property tax exemption. This is difficult for the property owner to understand, and due to the complexity of exemptions, often difficult for the assessor to explain.

If an assessor is uncertain whether to grant an exemption, the State Tax Commission advises that the property be assessed and placed upon the tax rolls. The burden is then on the taxpayer to appeal to the Board of Equalization and, thereafter, to the State Tax Commission or the Circuit Court (See



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138.430.3 RSMo), if necessary, to prove the exemption case in a more formal setting.

Many court decisions regarding exemptions are cited in the information below, and State Tax Commission decisions pertaining to exemptions can be searched at the Commission website: <http://www.stc.mo.gov/decisions.htm> by using the key word “exemption.”

The basic statute controlling property tax exemptions is section 137.100, which tracks Article X, Section 6 of the Constitution of Missouri. Section 137.100 reads:

137.100. The following subjects are exempt from taxation for state, county or local purposes:

- (1) Lands and other property belonging to this state;
- (2) Lands and other property belonging to any city, county or other political subdivision in this state, including market houses, town halls and other public structures, with their furniture and equipments, and on public squares and lots kept open for health, use or ornament;
- (3) Nonprofit cemeteries;
- (4) The real estate and tangible personal property which is used exclusively for agricultural or horticultural societies organized in this state, including not-for-profit agribusiness associations;
- (5) All property, real and personal, actually and regularly used exclusively for religious worship, for schools and colleges, or for purposes purely charitable and not held for private or corporate profit, except that the exemption herein granted does not include real property not actually used or occupied for the purpose of the organization but held or used as investment even though the income or rentals received therefrom is used wholly for religious, educational or charitable purposes;
- (6) Household goods, furniture, wearing apparel and articles of personal use and adornment, as defined by the state tax commission, owned and used by a person in his home or dwelling place;
- (7) Motor vehicles leased for a period of at least one year to this state or to any city, county, or political subdivision or to any religious, educational, or charitable organization which has obtained an exemption from the payment of federal income taxes, provided the motor vehicles are used exclusively for religious, educational, or charitable purposes; and
- (8) Real or personal property leased or otherwise transferred by an interstate compact agency created pursuant to sections 70.370 to 70.430, RSMo, or sections 238.010 to 238.100, RSMo, to another for which or whom such property is not exempt when immediately after



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the lease or transfer, the interstate compact agency enters into a leaseback or other agreement that directly or indirectly gives such interstate compact agency a right to use, control, and possess the property; provided, however, that in the event of a conveyance of such property, the interstate compact agency must retain an option to purchase the property at a future date or, within the limitations period for reverters, the property must revert back to the interstate compact agency. Property will no longer be exempt under this subdivision in the event of a conveyance as of the date, if any, when:

- (a) The right of the interstate compact agency to use, control, and possess the property is terminated;
  - (b) The interstate compact agency no longer has an option to purchase or otherwise acquire the property; and
  - (c) There are no provisions for reverter of the property within the limitation period for reverters.
- (9) All property, real and personal, belonging to veterans' organizations. As used in this section, "veterans' organization" means any organization of veterans with a congressional charter, that is incorporated in this state, and that is exempt from taxation under section 501(c)(19) of the Internal Revenue Code of 1986, as amended.
- (10) Solar energy systems not held for resale.

The following overview explains the various areas of exemption in some detail. A familiarity with these concepts is essential when considering exemption requests.

### **1. OWNED BY STATE, COUNTY, OR OTHER POLITICAL SUBDIVISIONS**

Article X, Section 6 of the Missouri Constitution (as amended) provides that “all property, real and personal, of the State, counties and other political subdivisions” shall be exempt from taxation. Similarly, Section 137.100, RSMo exempts “lands and other property belonging to any city, county or other political subdivision in this state” from taxation.

This particular portion of the exemption statute is perhaps the easiest to apply in that it is based upon ownership of the property rather than the actual “use” of the property. Generally speaking, if the property is owned by the State, a county or any other political subdivision of the State on the relevant tax day, it is exempt from taxation. The exception to this rule is a taxable leasehold interest in property owned by a governmental entity. This exception is discussed below.



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The Missouri Supreme Court has held that when an exempt political subdivision purchases property at a tax sale and the owner does not pay the delinquent taxes during the redemption period, the political subdivision is not required to pay the delinquent taxes in order to receive the deed to the property from the Collector. State ex rel. City of St. Louis v. Baumann, 153 S.W.2d 31 (Mo. banc 1941). The Court stated that “[even] though taxes have been levied and assessed against a tract of land while under private ownership, if it be afterwards acquired by a governmental agency such taxes may not be collected.” Id. at 34.

Assessors frequently inquire concerning that status of leasehold interests in property owned by political subdivisions. The general rule in Missouri is that the exemption accorded to the governmental entity does not extend to a leasehold interest in such property because a leasehold interest is considered to be “real property” for the purpose of ad valorem taxation. See, Iron County v. State Tax Commission, 437 S.W.2d 665 (Mo. banc 1968).

The Assessor is also presented with the problem of how to value this leasehold interest. The case of Frontier Airlines, Inc. v. State Tax Commission, 528 S.W. 2d 943 (Mo. banc 1975), indicates that such an interest should be valued by the bonus value method which is defined as the difference between economic rent and the contract rent for use and occupancy of the premises. The State Tax Commission applied this rule of law in the case of Budget Rent-A-Car of Missouri v. Platte County, STC Appeal Number 1980-7090

There are some instances where the governmental entity’s interest in the property is not tantamount to “ownership” of the property. For example, in the case of City of St. Louis v. Wenneker, 47 S.W. 105 (Mo. 1898), the issue was whether or not certain real estate over which the City of St. Louis had been made trustee as part of a testamentary trust was exempt from taxation. The Court held that the real estate was not exempt, reasoning that the city, as trustee, was not allowed to use the property for its own benefit or for municipal purposes and that “the Constitution [of Missouri] should not be construed to exempt real estate held in trust by a city, and to require the taxation of that held by the same title and upon the same trust by an individual trustee.” Id. at 107.

In the administrative appeal of City of Festus, Missouri v. Dougherty, STC Appeal Number 89-34063 (1990), the issue was whether the subject property was taxable once it was quit-claimed to the



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City. The State Tax Commission found that the City was exempt from taxes but the private lessee was taxable for any leasehold interest in the property.

In the case of Land Clearance for Redevelopment Authority of Kansas City, Missouri v. Waris, 790 S.W.2d 454 (Mo. banc 1990), the assessor had assessed property owned by LCRA of Kansas City. The Court found that LCRA was a part of the municipal structure of Kansas City and was exempt from taxation as a political subdivision.

In St. Charles County and Zimmerman v. Curators of the University of Missouri, et al., 25 S.W.3d 159,(Mo.2000), the court found a golf course lessee located in a University of Missouri Research Park to be taxable. Section 172.273, RSMo. authorized the University of Missouri to develop a research park and enter into long-term leases with individuals, companies, and corporations. The statute specifically said that all interests in such property belonged to the University and that “no leasehold or other interest therein . . . shall be separately assessed or taxed.” Under this umbrella, a golf course and various other improvements were built. Since 1994, the Assessor attempted to tax the golf course only to be thwarted by the board of equalization. Having no right to appeal a decision of the board, Mr. Zimmerman and the County instead initiated a declaratory judgment suit alleging that § 172.273.3 was unconstitutional.

The Supreme Court held the subsection to be unconstitutional and reaffirmed that leasehold interests are taxable. The court ruled:

Property which, in fact, does not belong to the state, cannot be made state property by legislative declaration. Neither can the Legislature exempt property from taxation by declaring that such property, for the purpose of taxation, shall be deemed state property, when in fact it is not state property.

Generally, this portion of the exemption statute will pose few problems for assessors. The key things to keep in mind are that the exemption is based upon governmental ownership of the property



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rather than the use of the property and that a leasehold interest in such property, if not otherwise exempt, is subject to taxation if the leasehold interest has any value under the bonus value method of valuation.

### **2. EXEMPTION FOR NONPROFIT CEMETERIES**

Article X, Section 6 of the Missouri Constitution (as amended) states that all nonprofit cemeteries shall be exempt from taxation. Section 137.100.3 also contains this exemption.

Prior to the enactment of the statutory provision, the Missouri Supreme Court held that the provision in the Missouri Constitution exempting nonprofit cemeteries from taxation did not extend to grant an exemption to “personal property” owned by a cemetery association. State ex rel. Mount Mora Cemetery Ass’n v. Casey, 109 S.W. 1 (Mo. 1908).

The fact that a cemetery association owns the property does not, in and of itself, mandate an exemption for the property. The owner must show that the cemetery is not-for-profit and that the land is being used as a cemetery or that the land is in some way “set apart” for the burial of the dead. National Cemetery Ass’n of Missouri v. Benson, 129 S.W.2d 842 845 (Mo. 1939).

### **3. EXEMPTION FOR THE REAL ESTATE AND TANGIBLE PERSONAL PROPERTY WHICH IS USED EXCLUSIVELY FOR AGRICULTURAL OR HORTICULTURAL SOCIETIES ORGANIZED IN MISSOURI**

Article X, Section 6 of the Missouri Constitution (as amended) provides that “all property, real and personal, not held for private or corporate profit and used exclusively...for agricultural and horticultural societies may be exempted from taxation by general law.” A Missouri statute also provides that “[t]he real estate and tangible personal property which is used exclusively for agricultural or horticultural societies organized in this state” is exempt from taxation. Section 137.100.4, RSMo.

The Missouri Supreme Court has construed this exemption narrowly, finding that it is not intended to exempt all “not for profit corporations engaged in agricultural activities, but only those unique societies organized as adjuncts of the State Board of Agriculture.” American Polled Hereford



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Association v. City of Kansas City, 626 S.W.2d 237 (Mo. 1982); Kansas City Exposition Driving Park v. Kansas City, 74 S.W. 979 (1903). The Missouri State Horticultural Society (Section 262.290) and the County Agricultural Societies (Section 262.290) appear to be the societies to which this portion of the exemption statute is directed.

The Court in American Aberdeen Angus v. Stanton, 762 S.W.2d 501 (Mo. App. 1988), relying on American Polled Hereford, determined that the subject association was a cattle breeding association and not an agricultural society as contemplated by Section 138.100(4). That is, the association was not an adjunct of the Missouri Department of Agriculture.

#### 4. **SOLAR ENERGY SYSTEMS NOT HELD FOR RESALE**

The term “solar energy systems” is not defined by Missouri statutes. An undefined term is given its plain and ordinary meaning. A review of other states’ definitions as well as common dictionaries provide that a solar energy system is a device or structured design feature, a substantial purpose of which is to provide for the collection, storage and distribution of solar energy for space heating or cooling, electricity generating or water heating.

#### 5. **EXEMPTION FOR ALL PROPERTY ACTUALLY AND REGULARLY USED EXCLUSIVELY FOR RELIGIOUS WORSHIP, FOR SCHOOLS AND COLLEGES, OR FOR PURPOSES PURELY CHARITABLE**

Article X, Section 6 of the Missouri Constitution (as amended) provides as follows:

...all property, real and personal, not held for private  
or corporate profit and used exclusively for religious worship,  
for schools and colleges, [or] for purposes purely charitable,  
...may be exempted from taxation by general law.

Section 137.100.5 provides as follows:

The following subjects are exempt from taxation for state, county or local purposes:

(5) All property, real and personal, actually and regularly used exclusively for religious worship, for schools and colleges, or for purposes purely charitable and not





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held for private or corporate profit, except that the exemption herein granted does not include real property not actually used or occupied for the purpose of the organization but held or used as investment even though the income or rentals received therefrom is used wholly for religious, educational or charitable purposes;....

This particular provision of the Missouri exemption statute is the most difficult for Assessors and courts to apply. This provision clearly bases the exemption upon the actual and regular use of the property. The taxpayer has the burden of proof with regard to showing that the property is actually being used for one of the exempt purposes listed. Although the exemption applies to each of the three uses listed, many taxpayers take the shotgun approach in claiming exempt status by asking the tribunal to find that the use of the property fulfills a combination of two, or all three of the uses. One court has stated, in dictum, that “at least certain religious purposes would appear to be within charitable use.” See, Pentecostal Church of God of America v. Hughlett, 601 S.W.2d 666, 668 (Mo. App. 1980). The confusion has also been compounded by the adoption of the partial exemption rule by the Missouri Supreme Court and the subsequent “Application” of this doctrine by the Eastern District of the Missouri Court of Appeals. Some of these problems will be discussed below.

#### **A. EXEMPTION FOR ALL PROPERTY ACTUALLY AND REGULARLY USED FOR RELIGIOUS WORSHIP**

The leading case concerning exemption from taxation due to use of the property for religious workshop in Missouri is Missouri Church of Scientology v. State Tax Commission, 560 S.W.2d 837 (Mo. banc 1977). In the Scientology case, the Missouri Church of Scientology sought an exemption for personal property (office equipment and furniture) used by the Church in the promotion of the organization and for record keeping and providing mailings to the church membership. The Missouri Supreme Court focused on defining the words “religious worship” in the exemption statute in finding that the church’s personal property did not fall within the exemption. The Court states as follows:

The term religious worship in the commonly accepted sense includes as a necessary minimum a belief in the Supreme Being of the universe. Generally religious worship is expressed by prayers, reverence, homage and adoration paid to a deity and include the seeking out by prayer and otherwise the will of the deity for divine guidance. Webster’s New World Dictionary of the American Language, Second College



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Edition, copyrighted in 1974, defines religion as “belief in a divine or superhuman power or powers to be obeyed and worshiped as the creator [s] and ruler [s] of the universe; b) expression of such a belief in conduct and ritual.” “Worship” is defined as “reverence or devotion for a deity; religious homage or veneration; b)a church service or other right showing this.” Id. At 840.

In the Scientology case, the Court rejected the stance of one California Court which had held that “the belief or non-belief in a Supreme Being” is a false factor in determining whether or not property is used for religious worship. Fellowship of Humanity v. County of Alameda, 153 Cal.App.2d 673, 315 P.2d 394 (1957). The California Court indicated that exemption laws should not include any reference to whether the beliefs involved are theistic or non-theistic. The Missouri Supreme Court responded as follows to the position of the California Court:

Under this loose concept it is readily apparent any organization espousing moral principles, without theistic foundation, to which the membership openly express belief might opt for the exempt status. We are unwilling to ascribe such meaning to the expression “religious worship” in Missouri’s tax law. Instead, we conclude that the constitutional and statutory term religious worship or Article X, Section 6 and Section 137.100 embody as a minimum requirement a belief in the Supreme Being. Scientology, supra, at 842.

Pursuant to the guideline set forth in the Scientology case, the Missouri State Tax Commission has ruled that a “sanctuary” or “retreat” in Southwestern Missouri used for “individual worship” and the appreciation of nature is not exempt from taxation. See, Rivendell, Inc. v. Stone County, STC Appeals Number 1981-7150 through 1981-7156.

The State Tax Commission has found that support property which is usually separate from the church itself, i.e., parking lots, storage buildings, vacant land, etc., is not exempt because it is not actually used for religious worship. See, Prairie Flower Bible Church v. Willis, STC Appeal Number 85-36787 (1987) (storage buildings not exempt); St. Margaret Mary Alacoque Catholic Church v. Morton, STC Appeal Number 87-11754 (1989) (3 acres of land with janitor’s residence and storage units not exempt).

One case has dealt with buildings used for religious worship. In Kallstrom v. Wilson, STC Appeal



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Number 88-60000 (1989), the State Tax Commission found that a residence used only once a week for religious services was not exempt as property used exclusively for religious worship.

Assessors frequently ask whether or not church parsonages are exempt from taxation. The Commission addressed the issue in *Mt. Branson Christian Church v. Strahan*, STC Appeal Number 98-89506 (1999) and found the parsonage to be exempt. The key language in that decision is as follows:

The issue of the tax exempt status of the parsonage has been determined by the Supreme Court of Missouri in *Central States, supra*. In *Central States*, rooms were being rented to students who were *spiritual leaders* for the Association. The Court found that the renting of rooms did not interrupt the exclusive occupation of the building for religious worship, but dovetailed into or rounded out that purpose. Citing *Midwest Bible and Missionary Inst. v. Sestric*, 260 S.W.2d 25, 30 (Mo. 1953). In holding the *Central States* property exempt, the Court stated; *Providing low cost housing to persons required to actively participate in advancing a religious worship purpose in a facility is incidental to religious worship, even though the hours spent socializing, eating, studying or resting may exceed the hours spent in purely religious devotions.*

The application of the reasoning of *Central States* requires a finding that the parsonage is exempt. The parsonage is provided at no cost to the minister and his family. Activities incident to worship in the church building, per se, are conducted in the parsonage, i.e., sermon preparation and study by the pastor. Indeed, at times worship activities take place in the parsonage, because it is the place of residence for the Complainant's minister. The holding of the Court in *Central States* is determined by the Hearing Officer to be controlling in this appeal and requires a parsonage to be exempt under Section 137.100(5), RSMo. Furthermore, the reasoning adopted by the Missouri Supreme Court in the cases of *Bethesda General Hospital v. STC*, 396 S.W.2d 631 (Mo. 1965) and *Jackson County v. STC*, 621 S.W.2d 378 (Mo.banc 1975) is applicable to the case at hand. The present case is analogous



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to both *Bethesda* and *Jackson County*. When considered together, *Central States, Bethesda* and *Jackson County*, provide more than ample foundation for finding the subject parsonage to be exempt under Section 137.100, RSMo.

Section 137.100.5, specifically states that the exemption for religious worship, for schools and colleges or for purposes purely charitable does not include real property not actually used or occupied for the purpose of the organization but held or used as an investment even though the income or rentals received therefrom is used wholly for religious, educational or charitable purposes.

This particular provision appears to have been suggested by the case of Evangelical Lutheran Synod v. Hoehn, 196 S.W.2d 134 (No. 1946). In Evangelical, the taxpayers were the Evangelical Lutheran Synod of Missouri and the Publishing House, which was a wholly owned subsidiary of the Synod. The Publishing House published religious materials as well as other books and literature approved by the Synod. The business operated profitably and the profits went to the Synod for religious and charitable purposes. The Court held that the Publishing House was not exempt from taxation. The Court stated as follows at page 147:

[O]ne of the chartered objectives of the Publishing House is “the advancement and extension of knowledge and learning among people generally; and it is authorized to publish and sell (for profit) books and literature, and to acquire and operate real estate and publishing plants for that purpose. Any bona fide schoolbook or encyclopedic publishing concern could qualify under that provision. Nor do we think the situation is altered here by the fact that nearly all the sales for profit were of religious literature and made mostly to members of the denomination. Many books are sold competitively and for profit to a limited public, such as law books to lawyers. Appellants’ objectives are commendable, and there is no doubt that a charitable trust may operate for profit. But the only question here is whether the land on which appellants’ publishing enterprise is conducted is tax exempt; and our Constitution says tax exempt land must be used exclusively for religious worship or purposes purely charitable. A competitive commercial business operated for profit does not comply with that requirement, even though the profits are devoted to



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religion.

Cases in this area, instead of clarifying the law, serve only to confuse the issue.

In Sunday School Board of the Southern Baptist Convention v. Mitchell, 658 S.W. 2d 1 (Mo. banc 1983), the Supreme Court found that the subject religious bookstore was not exempt as property used exclusively for religious purposes. The Court, relying on Evangelical, found that the bookstore was operated as a competitive business with the purpose of producing a profit. (Id. At 7).

In Herald Publishing House v. O'Flaherty, STC Appeal Number 84-30014 (1986), the State Tax Commission found that this publishing business was run as a competitive commercial business and was not exempt as a place used exclusively for religious purposes. The trial court reversed the Commission in part, finding that a portion of the publishing business was used exclusively for religious purposes. The case was not appealed further.

In Missouri Conference Association of Seventh Day Adventists v. State Tax Commission, 727 S.W.2d 940 (Mo. App. 1987), the business consisted of a retail store which sold religious materials and food which complied with Seventh Day Adventist dietary restrictions. Much of this merchandise was available in other retail stores. However, the Court determined that the property was used in a charitable manner to supply literature and food stuffs to church members and that it benefitted society as a whole. The property was found to be exempt from taxation.

The final case in the area is North American Islamic Trust v. Fenton, STC Appeal Number 85-33556 (1988). The State Tax Commission found that two apartments and a grocery store which facilitated the religious worship of the group were not exempt because they were not used exclusively for religious purposes. This decision was not appealed.

On the whole the courts appear to have construed the exemption for use for religious worship rather narrowly by limiting the exemption to the actual use of the property for the worship of "the Supreme Being." This would include property used for the religious services of most conventional denominations. Beyond this, it is difficult to set forth absolute guidelines. The facts of each case should be considered carefully.

### **B. EXEMPTION FOR ALL PROPERTY USED EXCLUSIVELY FOR SCHOOLS AND**



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### **COLLEGES**

The courts have shown a tendency to be fairly liberal in constructing the term “schools and colleges.” In the case of YWCA v. Baumann, 130 S.W.2d 499 (Mo. banc 1939), the YWCA claimed an exemption for real property used to house low income and homeless women. The owner claimed that all of the activities conducted on the property were evidence of use for charitable, religious, and educational purposes. The exemption statute at that time was similar to the current exemption statute in that it exempted property used for “schools.” Although the YWCA was not a “school” in the conventional sense, the Court noted as follows on page 502:

A large part of the activities of the Association clearly falls within one or another of the exempted purposes. Some may argue that the teaching of swimming, dancing, etc., is not a reasonable incident to or part of education, but it is not for us to write our personal views into the law. Such things are generally taught in our schools and have come to be a recognized part of our system of education. It makes no difference that fees are paid for such services, or that the recipients of such service pay for lodging, for the exemption applies to pay schools or boarding schools as well as free schools.

The fact that the use of the property in the Baumann case otherwise satisfied the charitable use requirement should not be discounted in analyzing this opinion.

One unusual case is City of St. Louis v. State Tax Commission, 524 S.W.2d 839 (Mo. banc 1975), in which the Missouri Supreme Court found that an engineers’ club was exempt. The Engineers’ Club of St. Louis was a non-profit corporation which had the stated corporate purpose of “promoting the educational and professional improvement of its members, to advance the field of engineering in its several branches, [and] to make available to the general public technical and scientific information and knowledge....” Membership in the club was limited to registered professional engineers or architects. The club has regularly scheduled programs on a number of topics. These programs were open to the public. The Missouri Supreme Court found that the entire property was exempt under the “charitable” exemption provision because the definition of “charity” included educating people. Since the engineers’ club conducted seminars on engineering and other important topics, and since these seminars were open to the public, the Court reasoned that the real property owned and used by the club was exempt from taxation. The Court noted that the property



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would not have been exempt if the seminars, etc., had not been open to the public.

In the case of State ex rel. Hammer v. Macgurn, 86 S.W. 138 (Mo. 1905), the Missouri Supreme Court held that real property which was leased to a school and used for school purposes was not exempt from taxation when the owner of the property charged market rent for the property. The Court stated as follows at page 139:

[W]hen the owner leases his land to the public for a public use, or to a quasi public body for a charitable or religious use, and applies the rents derived from the land to his own personal advantage, he contributes nothing to the public or to charity, he loses nothing by the use, he is not a benefactor to any one, but he stands before the law in exactly the same light as any one else who leases his land for any other purpose and uses the rents for his own advantage, and therefore he is not entitled to any special consideration at the hands of the law or the government, and his property is not exempt. There would be just exactly as much, and no more or less, reason for holding that the property of one who sold provisions or supplies to a charitable institution, which were used to support the lives of the inmates thereof, appropriate to his own use the proceeds or products of his property, just the same as if it had been rented, or sold to a private citizen, or to a business concern; and in neither instance would the state of the charitable institution be benefitted one jot or tittle by the transaction, for it would pay a full consideration for all it got.

In the case of State ex rel. Spillers v. Johnston, 113 S.W. 1083 (Mo. 1908), an exemption was sought for the Kemper Military Academy in Boonville, Missouri. The issue was whether or not the fact that the school contained apartments housing the family of the owner of the school destroyed the exemption to which the school would normally be entitled. The Court answered this question in the negative, setting forth some language which was cited in many subsequent cases and which has been overruled by the Missouri Supreme Court in the Barnes Hospital case, *infra*. The Court in Spillers stated as follows on page 1085:

The phrase “exclusively used” has reference to the primary and inherent use as over against a mere secondary and incidental use. If the incidental use (in this instance residing in the building) does not interrupt the exclusive occupation of the building for school purposes, but dovetails into or rounds out those purposes,



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then there could fairly be said to be left an exclusive use in the school on which the law lays hold.

The Court in Spillers also recognized Missouri's "all or nothing" rule with regard to exemptions. This rule holds that if a portion of the property is used for a non-exempt purpose, then the entire property is taxable. In creating the "dovetails" argument, it appears that the Court in Spillers was attempting to avoid the rather harsh result of the "all or nothing" rule. In Spillers, the Court found that the use of a portion of the school to house the owner of the school did dovetail and round out the use of the property for school purposes in that the owner of the property was responsible for running the school and his wife and family helped in this endeavor. The effect of the Barnes Hospital case on the "dovetails" argument is discussed later in Section VI.

The State Tax Commission has issued the following decisions in this area:

In Cape Girardeau and Jackson Cable T.V. v. Reynolds, STC Appeal Number 85-34202 (1987), the taxpayer, a cable company, sought an exemption for a local origination studio located on the Southeast Missouri State University campus, claiming that the equipment was used exclusively for educational purposes. The Commission found that the equipment was not used exclusively for educational purposes, but was primarily dedicated to local programming not related to education. In several other cases, the State Tax Commission found the subject properties exempt; The Nature Conservancy v. Lack, STC Appeals Number 85-35203, et al. (1987) (nature conservancy land used for educational, charitable purposes); L-A-D Foundation v. Koch, STC Appeal Number 1981-7800 (1982) (land used to promote forestry, agriculture and horticulture); International University Foundation v. O'Flaherty, STC Appeal Number 1983-5104 (1985) (house used as administrative offices and headquarters of International University); Laura Ingalls Wilder Home Association v. Day, STC Appeal Number 85-92400 (1988) (Laura Ingalls Wilder home and museum).

It is difficult to set forth specific guidelines for property used for schools and colleges. The case law indicates that property used for both public and private schools and colleges is exempt. The courts have also shown a tendency to construe the phrase "schools and colleges" as including property used for general "educational" purposes as well by characterizing the use as one typically provided in conventional schools and colleges or by characterizing the use as "educational" and therefore "charitable."





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### C. EXEMPTION FOR ALL PROPERTY ACTUALLY AND REGULARLY USED EXCLUSIVELY FOR PURPOSES PURELY CHARITABLE

#### (1) THE FRANCISCAN TEST

The leading case with regard to the exemption for charitable use in Missouri is Franciscan Tertiary Province of Missouri, Inc. v. State Tax Commission of Missouri, 566 S.W.2d 213 (Mo. banc 1978). This case sets forth the guidelines to be considered by assessors and courts in determining whether or not property is exempt from ad valorem taxation due to charitable use. The three-part Franciscan test, as clarified in Barnes Hospital v. Leggett, 589 S.W.2d 241 (Mo. banc 1979), follows:

1. The property must be actually and regularly used exclusively for a charitable purpose, as charity is defined by Salvation Army v. Hoehn, 1888 S.W.2d 286 (Mo. banc 1945). “Charity” is therein defined as “...a gift, to be applied consistently with existing laws, for the benefit of an indefinite number of persons, either by bringing their hearts under the influence of education or religion, by relieving their bodies of disease, suffering or constraint, by assisting them to establish themselves for life, or by erecting or maintaining the public buildings or works or otherwise lessening the burdens of government.” Salvation Army, *supra*, at 830.
2. The property must be owned and operated on a not-for-profit basis. The property “must be dedicated unconditionally to the charitable activity in such a way that there will be no profit, presently or prospectively, to individuals or corporations. Any gain achieved in use of the building must be devoted to achievement of the charitable objectives of the projects.” Franciscan Tertiary Province v. State Tax Commission of Missouri, 566 S.W.2d 213, at 224 (Mo. banc 1978).
3. The dominant use of the property must be for the benefit of an indefinite number of persons and must directly or indirectly benefit society generally. “It is required that there be the element of direct or indirect benefit to society in addition to and as a result of the benefit conferred on the persons directly served by the humanitarian activity.” Franciscan, *supra*, at 224.



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The Court pointed out that this requirement does not preclude a project from operating in the black rather than on a deficit basis as long as the gain is achieved “incidentally to accomplishment of the dominantly charitable objective and is not a primary goal of the project, and provided further that all of such gain is devoted to the charitable objectives of the projects.” Franciscan at 224.

Examples provided in Franciscan of activities held to be exempt as charitable include the operation of hospitals which are open and available to rich and poor (Community Memorial and Jackson County); a facility operated to provide employment and training for handicapped person (Goodwill); operating a YMCA building housing boys and young men, preferably of low income, as a part of a program intended to foster good citizenship and Christian ideals in those boys and young men (YMCA No. 4); providing housing at less than cost to girls and young women, including the needy, intended to promote the welfare of such persons (Salvation Army); providing good low-cost housing for low income people to replace old, dilapidated properties in a slum area which was cleared (Bader Realty). All of these, while benefitting the individuals served, also were considered to benefit society generally.

The requirement of a direct or indirect benefit to society exacts a quid pro quo for the exemption. The owner must adduce sufficient evidence from which a court could find that society benefits from the use of the property as a result of the benefit conferred upon certain individuals. As pointed out in Franciscan, hospitals fulfill this requirement as long as they are open to rich and poor alike. Sheltered workshops are also exempt under this section, even if they do make a profit, so long as the profit is incident to the purpose of the workshop to provide work for the physically and mentally handicapped, and is used to further the charitable objectives of the projects. Housing provided at less than cost for those who would otherwise be unable to reside in decent housing due to low incomes or minimal assets also fulfills the requirement.

### **(2) SENIOR CITIZEN HOUSING**

Community Park Village v. State Tax Commission of Missouri, 652 S.W.2d 179 (Mo. App. 1983), concerned a housing complex which was in part funded by the federal government and which provided housing for a substantial number of students at a nearby University, as well as for a few elderly retired persons. The Court found that the project was not exempt from taxation. With regard to the last prerequisite set forth in the Franciscan case, the Court states that “...it is not enough that the benefits relieve burdens from those directly participating, society as well must gain. The use of the property taken from the tax rolls must relieve some public obligation as by reducing the



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likelihood that persons will become public charges or will be forced into living conditions conducive to increasing society's problems."

[W]e conclude that Community does not meet the constitutional and statutory requirements for tax exemption prescribed by the cited cases. The sole and exclusive benefit to the tenants of Community is reduced rent. There are no programs of social, moral or religious activities, no contributions to the general welfare of the tenants and no purpose for the project except to supply low income housing. While a minimal number of tenants are retired persons, the project serves, in the main, the needs of students and faculty at the university. There was no proof whatever that the occupants would be relegated to substandard living condition without the project or that they could not afford accommodations rented on the open market. *Id.* at 182.

The courts have dealt with a number of cases involving the taxable status of senior citizen housing. In four cases the property was found to be exempt from taxation. (Senior Citizens of Bootheel Services, Inc. v. Dover, 798 S.W. 2d 201 (Mo. App. 1990); Pentecostal Church of God v. Hughlett, 737 S.W.2d 278 (Mo. banc 1987); Missouri United Methodist Retirement Homes v. State Tax Commission, 552 S.W.2d 745 (Mo. 1975); Rolla Apartments/Overall Construction Industries, Inc. v. State Tax Commission, 797 S.W.2d 781 (Mo. App. 1990)). In four cases the property was found to be taxable. (Cape Retirement Community, Inc. v. Kuele, 798 S.W.2d 201 (Mo. App. 1990); Evangelical Retirement Homes of Greater St. Louis, Inc. v. State Tax Commission of Missouri, 669 S.W.2d 548 (Mo. banc 1984); John Calvin Manor, Inc. v. State Tax Commission, 522 S.W.2d 754 (Mo. 1974); Paraclete Manor of Kansas City v. State Tax Commission, 447 S.W.2d 311 (Mo. 1969)). In Village North, Inc. v. State Tax Commission of Missouri, 799 S.W.2d 197 (Mo. App. 1990), the property was found to be partially exempt and partially taxable.

In a later case, Bethesda Barclay House v. Ciarleglio, 88 S.W.3d 85, (Mo.App.E.D.2002), the court found property of a retirement community to be taxable. The Barclay House property was a sixteen-story retirement facility restricted to persons sixty-five years of age or older. Tenants were required to pay an entrance fee, which ranged from approximately \$40,000 to \$395,000 and monthly rent ranging from \$850 to \$1,600.

According to the court, the property failed the Franciscan test on several issues. The decision found that the property, while owned on a not-for-profit basis, was not operated in such a manner. Excess monies were being used to pay off a loan to an affiliated company ahead of schedule and future



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revenues were projected to continue to exceed expenses. The court also found that the home was advertised as a luxurious and extravagant facility and not as a facility with charitable purposes. Finally, the court determined that the facility did not benefit an indefinite number of people. The decision ended with:

There is no evidence that society as a whole has derived any benefit as a result of the five cases where discounts were given from Barclay House. In fact, the discounts in these five cases accounted for less than one percent of Barclay House's total revenues for 1997, 1998, and 1999. In Evangelical, the Supreme Court found that the facility's "services were effectively denied to a large percentage of the elderly on the basis of finances." (Cite omitted). Like in our case, the waiver or reduction of fees in Evangelical was minimal. (Cite omitted). Thus, Barclay House failed to show the use of the property benefits an indefinite number of the elderly.

Barclay House failed to prove that it operated on a not-for-profit basis. It also failed to prove that the property is dedicated unconditionally to the charitable activity. Further, Barclay House failed to prove that the property's use benefits an indefinite number of people or society in general. Because Barclay House did not satisfy these three prongs, we conclude that it is ineligible for exemption from ad valorem taxes for the property.

A look at the cases reveals that all cases where the property has been found to be exempt involve either publicly or privately subsidized housing. On the other hand, those properties found to be taxable involve self-supporting developments which, as a general rule, require a substantial financial outlay by the respective residents. In the Village North case, the residential portion of the property was found to be of this latter type, but the associated nursing facility was operated on a charitable basis.

### **(3) HOSPITAL/MEDICAL PROPERTY**

The Court has allowed charitable exemptions for medical facilities and services in those cases where the property met the Franciscan test. (Affiliated Medical Transport, Inc. v. State Tax Commission, 755 S.W. 2d 646 (Mo. App. 1988) (ambulance service which provided some charity transport); Callaway Community Hospital Association v. Craighead, 759 S.W.2d 253 (Mo. App. 1988) (hospital exempt because there was no proof they did not provide indigent care); Spelman/St. Luke's Hospital Corporation v. Platte County Board of Equalization, 812 S.W.2d 196 (Mo. App. 1991) (hospital exempt even though not yet open for operation on tax day).



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Medical facilities have also produced one of the gray areas of exemption law, the partial exemption as established in Barnes Hospital v. Leggett, 589 S.W.2d 241 (Mo. banc 1979). Several of the recent hospital and medical facility cases deal with the partial exemption issue. These will be discussed in more detail later.

#### (4) MISCELLANEOUS CASES

To qualify for a charitable exemption, the property must meet the Franciscan test. As noted above, some senior citizens housing and most not-for-profit hospitals can meet this test. Other types of property seldom do, especially in recent years. In Home Builders Association v. St. Louis County Board of Equalization, 803 S.W.2d 636 (Mo. App. E.D. 1991), the Court found that property used as the headquarters for a not-for-profit business league was not exempt. The main purpose of the organization was to promote the business interests of its members.

In the case of Baptist Bookstore v. Mitchell, 658 S.W.2d 1 (Mo. banc 1983), the Missouri Supreme Court denied an exemption to a bookstore operated by the Sunday School Board of the Southern Baptist Convention which sold books to the general public as well as to churches and Sunday schools. The literature sold was not purely denominational. The profits from the bookstore were used to help defray the general and administrative expenses of the Southern Baptist Convention. The Court characterized the bookstore as primarily a private enterprise which devoted its profits to religious purposes. The Court found that “there must be a more significant nexus between profits earned through use of the property for which an exemption is sought and the use that is made of those profits. A business cannot compete for profit and then seek to insulate itself from taxation by claiming that its profits are used to attain a religious or charitable purpose.”

In Wholistic Life Church, Inc. v. Christerson, 968 S.W.2d 190, (Mo.App.S.D.1998) the court held that a not-for-profit corporation that offered workshops and counseling to the public, provided sanctuary to troubled or disabled individuals, and conducted religious services qualified for a real estate tax exemption. The court stated that was entitled to the exemption because the property was used for purposes purely charitable, services were offered free to everyone, and no one was refused.

#### (5) CONCLUSION

To summarize, in order for a property owner to obtain an exemption on the basis of charitable use



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the owner must show that (1) the property is actually and regularly used exclusively for charitable purposes; (2) that the property is owned and operated on a not-for-profit basis; and that (3) the dominant use of the property is used for the benefit of an indefinite number of people and directly or indirectly benefits society in general. Barnes Hospital v. Leggett, 589 S.W.2d 241 (Mo. banc 1979).

### 6. PARTIAL EXEMPTIONS

Prior to the case of Barnes Hospital v. Leggett, 589 S.W.2d 241 (Mo. banc 1979), there were two oft-cited rules which were applied to exemptions based upon the use of the property (use for religious worship, for schools and colleges, and for charitable purposes). These rules were developed to aid in the interpretation of the phrase “used exclusively” in the exemption statute.

One rule, known as the “all or nothing rule,” stated that where one part of a tract was used for non-exempt purposes, the entire property was taxable since the property was not used “exclusively” for the exempt purpose. Evangelical, at 271. A second rule was developed to avoid the harsh application of the “all or nothing” rule. It stated that the phrase “exclusively used” referred to “the primary and inherent use rather than a mere secondary and incidental use.” If the incidental use did not “interrupt the exclusive occupation of the building for [exempt purposes] then it could be said that the entire use was exclusively for exempt purposes.” State ex rel. Spillers v. Johnston, 214 Mo. 656, 663 113 S.W. 1083, 1085 (1908).

In the case of Barnes Hospital v. Leggett, 589 S.W.2d 241 (Mo. banc 1979), (Barnes #1) the Missouri Supreme Court abandoned both of these rules and approved a partial exemption rule. The Court stated as follows at page 244:

We hold that Mo. Const. Art. X, Section 6 and Section 137.100, RSMo 1986, which exempt from taxation property “used exclusively...for purposes purely charitable”, authorize a partial exemption of a building or tract, where that building or tract is used in part for charitable purposes and in part for noncharitable purposes.

Having abandoned the “all-or-nothing” rule of Wyman and the “dovetails into or rounds out” rule of Spillers, it remains for us to determine the point of departure from precedent. Feeling that justice will best be served by prospective application of the decision announced today, we hold that the new rule shall apply to this case and



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to all assessments which commence on the first day of January 1980, and thereafter.

In Barnes #1, supra, Barnes Hospital, a not-for-profit corporation, sought to enjoin the Collector of the City of St. Louis from levying a tax on Queeny Tower for the year 1978. Queeny Tower is one of a number of buildings comprising the Barnes Hospital complex. It contains laboratories, patient care rooms, and other hospital facilities. A substantial portion of the space is leased by Barnes to the Washington University Medical School. The rent charged the medical school in the relevant tax year constituted less than 0.5 percent of the total cost of patient care. The medical school also subleases a portion of this area to physicians on its part-time faculty so that they may carry on private practices.

The Circuit Court found in favor of Barnes and enjoined tax assessment or its collection on Queeny Tower. After enunciating the new partial exemption rule, the Missouri Supreme Court reversed this judgment and remanded the cause of hearing, if necessary, and directed the Circuit Court to enter a judgment enjoining assessment of those portions of Queeny Tower which satisfied the Franciscan test.

Accordingly, the Circuit Court applied the Franciscan requirements and ordered the Collector of Revenue and the Assessor of the City of St. Louis “to assess 16.6 percent of the building of the Barnes property, representing the portion of those buildings occupied by part-time faculty members engaged in the private practice of medicine.”

The Eastern District eventually found the entire property to be exempt. While the first Barnes case established the possibility of partial exemption, the second Barnes case declined to find a partial exemption, preferring to find the entire property exempt.

Since the Barnes decisions the State Tax Commission has relied on the Barnes #1 decision to find that property associated with various medical facilities is taxable in spite of the exempt status of the respective hospitals. (DePaul Health Center v. Zimmerman, STC Appeal Number 85-32638 (1988) (vacant land owned by hospital not exempt); Carondelet Health Corporation v. Kelley, STC Appeal Number 88-30185 (1989) (vacant land owned by hospital not exempt); SSM Health Care v. Morton, STC Appeal Number 88-11778 (January 18, 1991) (day care facilities for hospital employees not exempt). But in Lutheran Charities Association, d/b/a Lutheran Medical Center v. Giles, STC Appeal Number 1980-3005 (1983), the Commission found that the subject property was partially



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exempt.

It is interesting to note that the one case since Barnes which was decided by the Missouri Supreme Court found that the entire property was exempt. In United Cerebral Palsy Association v. Ross, 789 S.W.2d 798 (Mo. banc 1990), the subject property was an office building owned by the United Cerebral Palsy Association (UCPA). UCPA leased approximately one-fourth of the space to other charitable organizations. The Court found the entire property to be exempt, noting that the lease arrangement was one of convenience and was not intended to be a profit-making venture.

It seems that when the Barnes-type cases actually reach the courts, the courts are very reluctant to grant a partial exemption, preferring instead to find some reason to make the entire property exempt, i.e., the old “rounds out and dovetail” approach. At the local level, however, Barnes can be a valuable precedent for granting a partial exemption. As the need for new financial resources continues to grow, assessors will rely on Barnes to grant exemptions when warranted while taxing all property which is not being used exclusively for exempt purposes.





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## 7. MISCELLANEOUS EXEMPTIONS

### A. FRATERNAL AND VETERANS' ORGANIZATIONS (SECTION 137.101)

Section 137.101, became effective on June 20, 1986. The statute reads as follows:

137.101. 1. The activities of nationally affiliated fraternal, benevolent, or service organizations which promote good citizenship, humanitarian activities, or improve the physical, mental, and moral condition of an indefinite number of people are purposes purely charitable within the meaning of subsection 1 of section 6 of article X of the constitution and local assessing authorities may exempt such portion of the real and personal property of such organizations as the assessing authority may determine is utilized in purposes purely charitable from the assessment, levy, and collection of taxes.

2. If, at any time, an assessor finally determines, after any and all hearings or rightful appeals, that personal property, upon which an organization would otherwise owe taxes but for the provisions of subsection 1 of this section or subdivision (5) of section 137.100, is not used for purposes purely charitable, or for purposes described in subdivision (5) of section 137.100, then the assessor shall notify the department of revenue of such final determination within thirty days.

Under the statute, parks, athletic fields, etc., owned by fraternal organizations will properly be exempt if the facilities are made available to the public free of charge. Social and meeting halls may or may not be exempt depending on their use. Assessors will have to determine the use of these facilities on a parcel-by-parcel basis. The fact that a particular parcel is owned by one of the enumerated organizations does not automatically entitle it to an exemption under Section 137.101, RSMo.

In 2007, section 137.101 was amended to remove veterans' organizations from the list of organizations and a new subsection was added to section 137.100, and exempts property belonging to such organizations with the following language:



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All property, real and personal, belonging to veterans' organizations. As used in this section, "veterans' organization" means any organization of veterans with a congressional charter, that is incorporated in this state, and that is exempt from taxation under section 501(c)(19) of the Internal Revenue Code of 1986, as amended.

### **B. BANK PERSONAL PROPERTY (SECTION 141.110; ARTICLE X, SECTION 4 CONSTITUTION OF MISSOURI 1945)**

Section 4(C) of Article X of the Missouri Constitution states:

Section 4 (C) Assessment, levy, collection and distribution of tax intangibles. All taxes on property in class 3 [intangible personal property] and its subclasses, and the tax under any other form of taxation substituted by the general assembly for the tax on bank shares, shall be assessed, levied and collected by the state and returned as provided by law, less two percent for collection, to the counties and other political subdivisions of their origin, in proportion to the respective local rates of levy.

Section 148.110, implements this constitutional provision. It states:

148.110. Tax in lieu of other taxes.--It is the purpose and intent of the general assembly to substitute the tax provided by sections 148.010 to 148.110 for the tax on bank shares which was imposed by section 10959, RSMo 1939, and for all taxes on all tangible and intangible personal property of all banking institutions subject to the provisions of sections 148.010 to 148.110, except taxes on tangible personal property owned by the taxpayer and held for lease or rental to others and for all property taxes on the shares of such banking institutions.

In 1986, the Supreme Court decided the case of Arsenal Credit Union v. Giles, 715 S.W.2d 918 (Mo. banc 1986). This was a declaratory judgment action to determine the constitutionality of Section 148.620.3, RSMo, which purported to extend the Section 148.110 "in lieu of" exemption to the personal property of credit unions and savings and loan associations. The Court held that Section 148.620.3 was unconstitutional because Article X, Section 4(C) of the Missouri Constitution applies only to bank shares.



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The next logical step was taken in Mercantile Bank National Association v. Berra, 796 S.W.2d 22 (Mo. banc 1990), when the Court held that Section 148.110, RSMo is constitutional. Article X, Section 4(C) of the Missouri Constitution contemplates such a tax in lieu of taxes on bank shares. The bank tax does not violate the uniformity clause (Article X, Section 4 (a)) because it is not a property tax.

These two cases indicate that the personal property of banks, which is not being leased to others, is exempt from taxation, but the personal property of credit unions and savings and loans is not exempt from property taxation. In 2002, section 148.020 was amended and subsection 148.020.5 now reads:

The term "lease or rental of tangible personal property" means the lease or rental of tangible personal property under the exclusive control of the lessee and neither attached to nor functionally a part of a taxpayer's building or buildings or any part thereof.

Consequently, safe deposit boxes may not be taxed as property leased to others.

### **C.    MERCHANTS' AND MANUFACTURERS' INVENTORY (ARTICLE X, SECTION 6, CONSTITUTION OF MISSOURI)**

In conjunction with statewide reassessment which took place in 1985, the people of Missouri passed a constitutional provision which exempted the inventory of merchants and manufacturers.

Section 137.018 RSMo (2015) sets forth that all merchandise which will be ultimately sold, whether or not it is subject to a rental agreement, is inventory and therefore exempt from property taxes. The section provides that certain rental equipment is included within the term "merchandise".

Merchandise includes items of short term rental under NAICS codes 532412 and 532210. Short term rental is defined as rented for a period less than 365 days, or for an undefined period, or for an open ended period of time.

NAICS 532412 – This industry comprises of establishments primarily engaged in renting or leasing heavy equipment without operators that may be used for construction, mining, or forestry, such as bulldozers, earthmoving equipment, well drilling machinery and equipment, or cranes.

NAICS 532210 – This industry comprises establishments primarily engaged in renting consumer



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electronics equipment and appliances, such as televisions, stereos and refrigerators. Included in this industry are appliance rental centers.

In 1986, the State Tax Commission decided several cases dealing with the inventory exemption. These appeals were lodged before rental equipment under NAICS 532412 and 532210 were included in the term merchandise.

In Beagle's Rental Center v. Quick, STC Appeals Number 85-32016 and 85-32017 (1986), the subject property included property for lease only, property for sale or lease, and property for sale only. The Commission found that the property held for lease only was not "inventory," and that the property was taxable. The property which was for sale or lease or for sale only was inventory, and exempt from taxation.

It is the Commission's position that in a lease purchase situation, once the property leaves the store, regardless if it has been leased or purchased, it can no longer be inventory for resale. If it is leased, it is rental property and an assessment can be made against the lessor or the lessee. If it is purchased, it is no longer inventory and an assessment should be made against the purchaser.

In Central Electric Power Cooperative v. Smith, STC Appeal Number 85-39000 (1987), the issue was whether a coal pile which was used as fuel by the power cooperative was exempt merchants'/manufacturers' inventory, or taxable business personal property. The State Tax Commission found that the coal pile was not inventory, but was taxable as business personal property.

In Midwest Aerials & Equipment, Inc. v. King, STC Appeal number 00-20002, the Commission added a fourth prong to the test--that property must also be available for sale to be exempt inventory. In that case the evidence was that at any given time, only 20% of the property was in the store and available for sale. The Commission held that because 20% of the equipment of the rental company was available for sale at any given time, 20% of the value of the equipment was exempt from property tax, but that the remaining equipment (80%) was taxable.



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#### **D. UNITED STATES' PROPERTY (ARTICLE III, SECTION 43, CONSTITUTION OF MISSOURI)**

Property belonging to the United States government is not taxable by the various states. Technically, this property is not exempt from state taxation, but is immune from taxation. For all intents and purposes the results are the same. The property is not taxable in Missouri.

Article X, Section 43 of the Missouri Constitution states that no tax shall be imposed on lands belonging to the United States. This tax limitation has been expanded pursuant to the supremacy clause of the United States Constitution to include other types of federal property.

In 1988, the State Tax Commission decided two cases which dealt with federal personal property. The case of Rockwell International Corporation v. Stanton, STC Appeals Number 86-45006 and 87-45001 (1988), dealt with milling machines used to manufacture United States military equipment. The State Tax Commission found that the United States government was the owner of the property. The subject was not taxable by Missouri.

Libby Corporation v. Kelley, STC Appeals Number 85-30956 and 85-30957 (1988), also concerned manufacturing equipment. The Commission found that the equipment in this case was owned by Libby, not the United States government. It was taxable in Missouri although it was used to the benefit of the United States Department of Defense.

The Rockwell case, noted above, was decided in reliance on United States v. Jackson County, Missouri, 696 F.Supp. 479 (Mo. App. W.D. 1988). In the federal court case, Bendix Corporation managed and operated a weapon manufacturing facility for the United States Department of Defense. The Court found that the United States was the owner of all the real and tangible personal property at the facility. The property was, therefore, immune to state taxation.

The main issue in these cases is the ownership of the subject property. If it is owned by the United States government, the property is not taxable by Missouri. If the government continues to expand into the private arena, the tax immunity issue may become more prevalent in Missouri property tax cases.



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#### **E. REAL PROPERTY OF FORMER PRISONERS OF WAR (POWs) WHO ARE 100% DISABLED BY A SERVICE-RELATED DISABILITY**

In the November 2, 2010 election, the voters passed House Joint Resolution 15. The measure amended Article X, Section 6 of the Missouri Constitution to read, in pertinent part:

All property, real and personal, of the state, counties and other political subdivisions, and nonprofit cemeteries, **and all real property used as a homestead as defined by law of any citizen of this state who is a former prisoner of war, as defined by law, and who has a total service-connected disability**, shall be exempt from taxation . . . (New language bolded)

While other provisions of this section indicate that the general assembly “may” exempt property by general law, this particular provision mandates the exemption without requiring any action of the general assembly. In fact, pursuant to Article XII, Section 2(b) of the Missouri Constitution, the measure will take effect thirty days after the election approving it, so the effective date was December 2, 2010.

Until further clarification is forthcoming from the General Assembly, assessors should interpret the provision, which originated from a joint resolution, to ascertain the intent of the legislature from the words that are used. *United Pharmacal Co. of Mo., Inc. v. Mo. Bd. of Pharmacy*, 208 S.W.3d 907, 909 (Mo. banc 2006). “This goal is achieved by giving the language used its plain and ordinary meaning.” *Id.* at 909. Where a word “...is not defined in the statute, its meaning is ascertained from the dictionary definition.” *Id.* at 912. Black’s Law Dictionary (7<sup>th</sup> Ed.) defines “homestead” as “The house, outbuildings and adjoining land owned and occupied by a person or family as a residence.” The Commission advises that if the “homestead” is part of a farm, only the residential property should be exempted.

Consequently, to qualify, the applicant for such an exemption must 1) be a former prisoner of war and 2) a veteran of any branch of the armed forces of the United States or this state who became one hundred percent disabled as a result of his or her military service, and must 3) own and occupy the homestead as a primary residence.

The exemption applies only to real property and does not apply to property owned separately by the spouse of a qualifying Applicant or to the widow or widower of such Applicant.

#### **PROOF REQUIRED**

County records should demonstrate that the Applicant is the owner of the homestead. The applicant for this exemption should provide the assessor with the following evidence:



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1. Documents or sworn affirmation that the applicant occupies the homestead as his or her primary residence;
2. A letter from the United States Government or United States Department of Veterans Affairs as proof of service-connected total disability; AND
3. (a) Form DD 214 (Discharge Certificate) showing Ex-Prisoner of War Status;

OR

(b) A letter from the Military Personnel Records Center [also known as National Archives and Records Administration (NARA)] or the United States Department of Veteran Affairs indicating that the applicant is former prisoner of war.

## 2.5 THE APPEAL PROCESS

The property tax appeal process has four basic stages listed below. This chapter will address the stages in the order they occur. Of course, an appeal may be settled or dismissed at any of the stages.

- A. **Informal Hearings**--The assessor and the taxpayer meet informally and attempt to understand each others' arguments and come to an agreement if possible.
- B. **Board of Equalization**--The parties present their case to the local board which decides whether to change the assessor's assessment.
- C. **State Tax Commission**--The parties present their case to a hearing officer of the Commission where a formal record is made.
- D. **Judicial Review**--A party appeals to circuit court (then to appellate or Missouri Supreme Court) to review the decision of the Commission based upon the record made before the Commission.

### 1. **Informal Hearings**

At any point after the assessment is made, the assessor may meet with taxpayers who have a complaint about the assessment. The purpose of this meeting is for the assessor and the taxpayer to communicate and understand the other's point of view. Probably the vast majority of complaints are resolved at this stage either because the assessor fine tunes the assessment due to the additional



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factors supplied by the taxpayer, or the taxpayer, after hearing the assessor's explanation of the assessment, drops the complaint.

If changes are to be made before the assessor turns over the books to the clerk, the assessor can change the assessment. If the books are in control of the clerk, a stipulation by the taxpayer and the assessor, or a recommendation by the assessor, must be presented to the board of equalization. The board may then order the change if it deems it to be appropriate.

If the matter cannot be resolved by the informal hearing process, the taxpayer has a right to appeal to the board of equalization.

## 2. The Board of Equalization

### A. Second, Third, and Fourth Class Counties

Any person who thinks himself or herself aggrieved by the assessment of property may appeal to the board of equalization (hereafter referred to as the board) in person, by attorney or agent, or in writing pursuant to section 137.275. The appeal should be filed with the county clerk. "Person" may include a corporation, partnership, or other legal entity.

A taxpayer may be self-represented or represented by an attorney, a tax representative, a relative, or anyone else who wishes to appear on his or her behalf. Or, the taxpayer may appeal only in writing and never appear before the board. If the board receives such a written appeal and the taxpayer does not appear, the appeal should not be dismissed but the matter should be considered and an order issued in the same fashion as orders for other appeals.

Any person may appeal in person, by attorney or agent, or in writing on or before the second Monday in July. The board meets in the county clerk's office on the third Monday in July except it may start meeting July 1 if it finds it is necessary in order to hear all the cases resulting from an evaluation made during a general reassessment year, in other words, an odd-numbered year. Appeal hearings should end July 31 of each year.

The board is comprised six voting members who are the county commissioners, the surveyor, and two additional members, appointed by the county commissioners, who are citizens of the county, not officers of the county, not related to any member of the county board of equalization within the





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third degree of consanguinity, and who shall have some level of experience as a real estate broker, real estate appraiser, home builder, property developer, lending officer, or investor in real estate before such member's appointment to the board. Two additional non-voting members are the county clerk, who serves as secretary to the board, and the assessor. The assessor or a member of the assessor's staff shall be present at all board of equalization hearings, and shall have the right to present evidence pertaining to any assessment matter before the board.

Board members who are otherwise compensated by salary are not entitled to additional compensation. The county surveyor and the appointed board members should receive compensation as agreed upon by the county commission. A majority of the board constitutes a quorum and a majority of the members present can determine all matters of appeal or revision.

The primary function of the board is to hear all complaints and equalize the valuation and assessment of all real and tangible personal property at its true value. If property is undervalued, the board must raise the value of the property to market value and then give notice by personal service, mail, or publication to the owner/holder of the property specifying the property and the amount of the raise. The board must meet the third Monday in July to hear any reason why the valuation should not be raised. This July meeting is commonly referred to as the "board of appeals," although it is never so designated in the statutes. Note that in Walter-Kroenke Properties v. State Tax Commission, 742 S.W.2d 242 (Mo. App. 1987), the court upheld the board's authority to raise values upon the complaint of a third party which, in that case, was a school superintendent.

The board must also reduce the value of any property which is appraised above its true value. There is no presumption that the assessor's valuation is correct.

The State Tax Commission requires that a copy of the board order accompany appeals to the Commission. The taxpayer has a right to appeal to the Commission by September 30th or 30 days after the final action of the board. Therefore, it is extremely important that the board mail a copy of the order to the taxpayer. The board should provide enough detail to inform the State Tax Commission of the action of the board in the event the taxpayer appeals to the State Tax Commission. Those details should include:

1. The name and address of the taxpayer.
2. The address and parcel/locator number of the subject property.
3. Classification of the property.



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4. Appraised and assessed values placed upon the property by both the assessor and the board.
5. The date of mailing of the board decision to the taxpayer.

Upon request, the State Tax Commission will provide recommended decision forms designed to supply the information listed above.

#### **B. Non-Charter First Class Counties**

Any person aggrieved by the assessment of his property may appeal to the board of equalization (hereafter referred to as the board) on forms furnished by the county clerk. "Person" may include a corporation, partnership, or other legal entity. Appeals must be filed before the third Monday in June unless the board extends the time for filing.

The board may operate with membership like the second, third, and fourth counties described above, or the county commission may appoint three taxpaying property-owning citizens who have been residents of the county for five years preceding their appointment. Board members compensation is fixed by the county commission. A majority of the board constitutes a quorum.

The board meets on the first Monday of July each year except that the board may begin meeting after July 1 if it feels it is necessary in order to hear all the cases resulting from an evaluation made during a year of reassessment, in other words, an odd-numbered year. There is no presumption that the assessor's valuation is correct. Appeal hearings should end July 31 of each year. The board continues to meet once a month for the purpose of hearing allegations of erroneous assessments, double assessment, and clerical errors.

For a discussion of the function of the board and notice to taxpayers, see number 2.5.2A above.

#### **C. St. Louis City**

Any person may appeal in writing to the board of equalization from the assessment of his or her property, which appeal shall specify the matter of which he or she complains. Such appeals should be filed with the assessor before the second Monday in May.

The board is made up of the assessor, who is president of the board, and four taxpaying, property-



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owning citizens who have resided in the city at least five years immediately prior to their appointment. Board members are to be appointed before the second Monday in May of each year. Compensation is fixed by ordinance and vacancies are filled by appointment by the mayor.

The board shall meet on the first Monday in July except that the board may begin meeting after July 1 if it feels it is necessary in order to hear all the cases resulting from an evaluation made during a year of reassessment, in other words, an odd-numbered year. Appeal hearings should end the 4<sup>th</sup> Saturday in August.

The board is to hear complaints and appeals, adjust, correct and equalize the valuations and assessments of any real or tangible personal property taxable by the city. There is no presumption that the assessor's valuation is correct. If the board raises any assessment, it must give notice to the taxpayer by personal service, mail, or, if the address of the taxpayer or his or her representative is unknown, by publication. The notice must name the time and place, not less than five days thereafter, when and where the person may appear before the board and show cause, if any, why the assessment should not be made.

#### **D. Charter First Class Counties**

These counties have the authority to create their own procedures so long as they do not conflict with the general statutes governing boards of equalization. Pursuant to Section 138.100.3, the St. Louis County Board of Equalization must provide taxpayers who appeal written findings of fact and a written basis for the decision.

### **3. State Tax Commission**

#### **A. Filing the Complaint**

The taxpayer has a right to appeal the decision of the county board of equalization to the State Tax Commission (hereafter referred to as the Commission). Taxpayers may appeal directly to the circuit court without first appealing to the Commission if the appeal pertains only to an exemption issue. Taxpayers may not appeal to the Commission unless they have first appealed to the local board of equalization, except, the taxpayer may appeal directly to the Commission if:

- The assessor failed to send notice to the taxpayer of a new or increased assessment.



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In such case, the taxpayer must appeal within the later of 30 days after receiving notice (usually the tax bill) or on or before December 31 of the tax year. The taxpayer also must pay under protest because notification of appeal by the Commission to the Collector most likely would not come in time to impound the funds. See, 12 CSR 30-3.010(1)(B)

- A new owner acquires the property 30 days before the deadline for appealing to the board or later in the tax year, the new owner may appeal directly to the State Tax Commission. The appeal must be filed within 30 days after the tax statement/tax bill is sent, or the assessment is otherwise first communicated, or December 31, whichever is later. See, 12 CSR 30-3.010(1)(B)
- If actions of the county made it impossible for the taxpayer to appeal to the local board. See, Lake St. Louis v. State Tax Commission, 759 S.W.2d 843 (Mo.1988)

The assessor has no right to appeal the decision of the board. O'Flaherty v. State Tax Commission, 698 S.W.2d 2 (Mo 1985)

In all counties, appeals must be filed by September 30 or 30 days after the final action of the board, whichever is later. Appeals must be filed on Commission forms. Appeals are considered filed on the day they are postmarked or, if metered mail, on the date of post office cancellation. Otherwise, appeals are considered filed upon the day they are actually received at the Commission. There is no fee for filing an appeal with the Commission.

Appeals may be filed for any number of the following reasons:

1. Overvaluation
2. Misclassification
3. Misgraded agricultural land
4. Discrimination
5. Exemption

#### **B. The Two-Year Cycle**

Because Missouri assesses on a two year cycle, a decision in an appeal in the odd-numbered year



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(the year of reassessment) applies to the following even-numbered year as well unless there has been new construction and improvements between January 1 of the odd-numbered year and January 1 of the even-numbered year.

A taxpayer can always appeal in an even-numbered year if he or she has not appealed the previous year or the previous year's appeal was dismissed prior to April 1 of the even-numbered year.

The taxpayer should not appeal in an even-numbered year when the previous year's appeal is still pending as of April 1 of the even-numbered year. The Commission will advise the local board of equalization that the appeal for the odd-numbered year will also decide the value for the even-numbered year.

#### **C. Representation**

An individual taxpayer may represent himself or herself or be represented by an attorney. A corporation, partnership, limited liability company, trust, estate, or other legal entity must be represented by an attorney. An assessor, by Commission rule, may represent himself or herself, or may be represented by the prosecutor, county counselor, or other attorney. The Commission will notify the assessor of appeal dates and other orders of the Commission.

#### **D. Evidence**

The Commission hearing is extremely important in the appeal process. The Commission has no file containing the evidence presented to the board. The Commission conducts a "de novo" hearing; that is, the Commission hears the evidence anew as if it had not been heard previously. Additionally, **all subsequent review will be based upon the record (transcript and exhibits) made at the Commission hearing.**

Therefore, it is essential that the assessor, with the assistance of his counsel, organize and present the evidence as clearly and thoroughly as possible.

If valuation is the issue, the assessor should not rest upon the mass appraisal to prove the case. A mass appraisal by its definition paints with a broad brush. The assessor should appraise the subject



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property specifically using the appropriate approaches to value in a narrative appraisal report, if possible.

#### **E. Procedure**

Missouri Statutes, Missouri Court Rules and State Tax Commission Rules 12 CSR 30-3.001 et seq. should be consulted regarding appeal procedure. Further, it is extremely important that the assessor and his or her legal representative **carefully review and comply with Commission correspondence and orders regarding appeals**. Failure to adhere to the procedures outlined in such documents could lead to preclusion of evidence at hearing and, as a consequence, an adverse ruling. Conversely, if the procedures in the correspondence and orders are followed, they will guide the assessor through the process.

The legal staff at the Commission will answer any questions regarding procedure. However, it is a breach of ethics for the hearing officers or legal staff to discuss the merits of a pending case without the presence or permission of the other party. Such a discussion is called "ex parte communications" and can expose a hearing officer to sanctions by the Missouri Bar.

#### **Statutes, Administrative Rules and Court Rules Applicable to STC Appeals**

**138.360. Issuance of subpoenas — fees — costs.** — 1. The commission may subpoena witnesses. All subpoenas shall be signed and issued by a commissioner or by the secretary of the commission, and shall extend to all parts of the state, and may be served by any person authorized to serve process of courts of record or by any person of full age designated for that purpose by the commission or by a commissioner.

2. The person executing any such process shall receive the fees now prescribed by law for similar services in civil cases in the circuit courts in this state, and shall be paid in the same manner as provided herein for the payment of the fees of the witnesses.

3. Each witness who shall appear before the commission or a commissioner by its or his order, shall receive for his attendance the fees and mileage now provided for witnesses in civil cases in the circuit courts of this state, which shall be audited and paid by the state in the same manner as other expenses of the commission are audited and paid, upon the presentation of proper vouchers sworn to by such witnesses and approved by the commission.

4. Whenever a subpoena is issued at the instance of a complainant, respondent, or other party to any proceeding before the commission, the cost of service thereof and the fee of the witness shall be borne by the party at whose instance the witness is summoned.



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5. Any witness subpoenaed except one whose fees and mileage may be paid from the funds of the commission, may, at the time of service, demand the fee to which he is entitled for travel to and from the place at which he is required to appear, and one day's attendance. If such witness demands such fees at the time of service, and they are not at that time paid or tendered, he shall not be required to attend before the commission or commissioner, as directed in the subpoena. No witness furnished with free transportation shall receive mileage for the distance he may have traveled on such free transportation.

**138.370. Examination of witnesses and books.** — 1. The commission shall have power to examine witnesses under oath. Any member of the commission is hereby empowered to administer oaths.

2. The commission, or any member, or authorized representative thereof, shall have the right to examine books, papers or accounts of any corporation, firm or individual owning property liable for assessment for taxation, general or specific, under the laws of this state.

**138.430. Right to appeal, procedure, notice to collector, when — investigation — costs and attorney's fees awarded, when.** — 1. Every owner of real property or tangible personal property shall have the right to appeal from the local boards of equalization to the state tax commission under rules prescribed by the state tax commission, within the time prescribed in this chapter or thirty days following the final action of the local board of equalization, whichever date later occurs, concerning all questions and disputes involving the assessment against such property, the correct valuation to be placed on such property, the method or formula used in determining the valuation of such property, or the assignment of a discriminatory assessment to such property. The commission shall investigate all such appeals and shall correct any assessment or valuation which is shown to be unlawful, unfair, improper, arbitrary or capricious. Any person aggrieved by the decision of the commission may seek review as provided in [chapter 536](#).

2. In order to investigate such appeals, the commission may inquire of the owner of the property or of any other party to the appeal regarding any matter or issue relevant to the valuation, subclassification or assessment of the property. The commission may make its decision regarding the assessment or valuation of the property based solely upon its inquiry and any evidence presented by the parties to the commission, or based solely upon evidence presented by the parties to the commission.

3. Every owner of real property or tangible personal property shall have the right to appeal to the circuit court of the county in which the collector maintains his office from the decision of the local board of equalization not later than thirty days after the final decision of the board of equalization concerning all questions and disputes involving the exclusion or exemption of such property from assessment or from the tax rolls pursuant to the Constitution of the United States or the constitution or laws of this state, or of the taxable situs of such property. The appeal shall be as a trial de novo in the manner prescribed for nonjury civil proceedings. Upon the timely filing of the appeal, the clerk of the circuit court shall send to the county collector to whom the



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taxes on the property involved would be due a notice that an appeal seeking exemption has been filed, which notice shall contain the name of the taxpayer, the case number assigned by the court, and the parcel or locator number of the property being appealed. The notice to the collector shall state that the taxes in dispute are to be impounded in accordance with subsection 2 of section [139.031](#).

4. Upon the timely filing of an appeal to the state tax commission as provided in this section, or the transfer of an appeal to the commission in accordance with subsection 5 of this section, the commission shall send to the county collector to whom the taxes on the property involved would be due a notice that an appeal has been filed or transferred as the case may be, which notice shall contain the name of the taxpayer filing the appeal, the appeal number assigned by the commission, the parcel or locator number of the property being appealed, the assessed value by the board of equalization and the assessed value proposed by the taxpayer, if such values have been provided to the commission when the appeal is filed. The notice to the collector shall state that the taxes in dispute are to be impounded in accordance with subsection 2 of section [139.031](#). Notice to the collector of an appeal filed in an odd-numbered year shall also serve as notice to the collector to impound taxes for the following even-numbered year if no decision has been rendered in the appeal. The state tax commission shall notify the collector once a decision has been rendered in an appeal.

5. If the circuit court, after review of the appeal, finds that the appeal is not a proper subject for the appeal to the circuit court as provided in subsection 3 of this section, it shall transfer the appeal to the state tax commission for consideration.

6. If an assessor classifies real property under a classification that is contrary to or in conflict with a determination by the state tax commission or a court of competent jurisdiction of said property, the taxpayer shall be awarded costs of appeal and reasonable attorney's fees on a challenge of the assessor's determination.

**138.431. Hearing officers of tax commission to hear appeals, when, procedure — appeal of hearing officer's decision, how.** — 1. To hear and decide appeals pursuant to section [138.430](#), the commission shall appoint one or more hearing officers. The hearing officers shall be subject to supervision by the commission. No person shall participate on behalf of the commission in any case in which such person is an interested party.

2. The commission may assign such appeals as it deems fit to a hearing officer for disposition.

(1) The assignment shall be deemed made when any scheduling order is first issued by the commission, however, if no scheduling order has been issued, then a hearing officer shall be assigned no later than sixty days after the appeal is filed by the taxpayer.

(2) A change of hearing officer, or a reservation of the appeal for disposition as described in subsection 3 of this section, shall be ordered by the commission in any appeal upon the timely filing of a written application by a party to disqualify the hearing officer assigned. The





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application shall be filed within thirty days from the assignment of any appeal to a hearing officer and need not allege or prove any cause for such change and need not be verified. No more than one change of hearing officer shall be allowed for each party in any appeal.

3. The commission may, in its discretion, reserve such appeals as it deems fit to be heard and decided by the full commission, a quorum thereof, or any commissioner, subject to the provisions of section [138.240](#), and, in such case, the decision shall be final, subject to judicial review in the manner provided in subsection 4 of section [138.470](#).

4. The manner in which appeals shall be presented and the conduct of hearings shall be made in accordance with rules prescribed by the commission for determining the rights of the parties; provided that, the commission, with the consent of all the parties, may refer an appeal to mediation. The commission shall promulgate regulations for mediation pursuant to this section. No regulation or portion of a regulation promulgated pursuant to the authority of this section shall become effective unless it has been promulgated pursuant to the provisions of [chapter 536](#). There shall be no presumption that the assessor's valuation is correct. A full and complete record shall be kept of all proceedings. All testimony at any hearing shall be recorded but need not be transcribed unless the matter is further appealed.

5. Unless an appeal is voluntarily dismissed, a hearing officer, after affording the parties reasonable opportunity for fair hearing, shall issue a decision and order affirming, modifying, or reversing the determination of the board of equalization, and correcting any assessment which is unlawful, unfair, improper, arbitrary, or capricious. The commission may, prior to the decision being rendered, transfer to another hearing officer the proceedings on an appeal determination before a hearing officer. The complainant, respondent-assessor, or other party shall be duly notified of a hearing officer's decision and order, together with findings of fact and conclusions of law. Appeals from decisions of hearing officers shall be made pursuant to section [138.432](#).

6. All decisions issued pursuant to this section or section [138.432](#) by the commission or any of its duly assigned hearing officers shall be issued no later than sixty days after the hearing on the matter to be decided is held or the date on which the last party involved in such matter files his or her brief, whichever event later occurs.

**138.432. Decisions and orders of hearing officers, appeal of, procedure — when deemed final.** — A complainant, respondent-assessor, or other party subject to a decision and order of a hearing officer, may file with the commission, within thirty days following the date of notification or mailing of such decision and order, an application to have such decision and order reviewed by the commission. Such application shall contain specific detailed grounds upon which it is claimed the decision is erroneous. The commission may summarily allow or deny an application for review. If an application is allowed, the commission may affirm, modify, reverse, or set aside the decision and order of the hearing officer on the basis of the evidence previously submitted in such case, may take additional evidence, or may remand the matter to the hearing officer with directions. Any additional hearing shall be conducted in accordance with the requirements of subsection 3 of section [138.431](#). The commission shall promptly notify the parties of its decision and order, together with its findings of fact and conclusions of



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law. The decision of the commission shall be subject to judicial review in the manner provided by subsection 4 of section [138.470](#). If an application for review is denied, the decision and order of the hearing officer shall be deemed to be the final decision of the commission for the purpose of judicial review and shall be subject to the judicial review within the time and in the manner provided for with respect to decisions of the commission pursuant to subsection 4 of section [138.470](#); except that, the time limitations shall run from the date of notice or mailing of the order of the commission denying the application for review.

**138.433. Pleadings, when deemed filed.** — In determining whether pleadings are filed within the time allowed by law, such pleadings may be transmitted to the state tax commission by registered mail. Pleadings so filed shall be deemed filed with the commission as of the date deposited with the United States Postal Service as shown by the record of such mailing.

**138.434. Attorney fees and other costs awarded taxpayers on appeal in charter counties, St. Louis City, certain railroad and subclass three property, when.** — Any first class charter county or a city not within a county may require by ordinance or charter the reimbursement to a taxpayer for the amount of just and reasonable appraisal costs, attorney fees and court costs resulting from an evidentiary hearing before the state tax commission or a court of competent jurisdiction if such appeal results in a final decision reducing the appraised value of residential property by at least fifteen percent or the appraised value of utility, industrial railroad and other subclass three property by at least twenty-five percent from the appraised value determined by the board of equalization for that tax year. The commission or court awarding such fees and costs shall consider the reasonableness of the fees and costs within the context of the particular case. Such fees and costs shall not exceed one thousand dollars for a residential property appeal. Such fees and costs for utility, industrial railroad or other subclass three property appeals shall not exceed the lesser of four thousand dollars or twenty-five percent of the tax savings resulting from the appeal. The provisions of this section shall only apply to the first contested year when cases are tried on a consolidated basis.

### Administrative Rules

#### 12 CSR 30-3.001 Two-Year Assessment Cycle

*PURPOSE: This rule establishes the method assessors shall use to determine assessed value of real property under the two-year assessment cycle.*

(1) The assessed value of real property shall be calculated by determining its true value in money on January 1 of each odd-numbered year. The value shall remain the same for the subsequent even-numbered year unless there has been new construction or property improvements between January 1 of the odd-numbered year and January 1 of the following even-numbered year.



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(2) In those instances in which new construction or property improvements have occurred between January 1 of an odd-numbered year and January 1 of an even-numbered year, the true value in money of the property as newly constructed or improved shall be determined as of January 1 of the odd-numbered year.

(A) The valuation of the property shall take into consideration the new construction or property improvements and shall assign to that new construction or property improvements the value which would have been attributed to new construction or improvements on January 1 of the odd-numbered year as though they had existed on that date.

(B) Examples.

1. On January 1, 1991, the subject property is a five (5)-acre vacant lot. On December 1, 1991, construction of a strip shopping center is completed. For the 1992 tax year, the assessed value is calculated by determining the true value in money of a shopping center of the same size, construction, location and use as the subject property as of January 1, 1991, and multiplying that amount by the appropriate statutory assessed value percentage.

2. On January 1, 1991, the subject property is a three (3)-bedroom ranch style house with thirteen hundred (1300) square feet. On August 1, 1991, the addition of a second story and seven hundred (700) square feet is completed. For the 1992 tax year, the assessed value is calculated by determining the true value in money of a two (2)-story, two-thousand (2000) square foot residence of the same construction and location as the subject as of January 1, 1991, and multiplying that amount by the appropriate statutory assessed value percentage.

(3) A property improvement consists of any change to the physical characteristics of the property, whether that change is one that causes an increase or a reduction in value. Changes in zoning, neighborhood conditions or economic conditions which directly or indirectly affect the property will not warrant a change in the assessed value for the even-numbered year.

(A) Examples.

1. Assuming value is affected, a change in the assessed value for the 1992 tax year is warranted (see paragraph (2)(B)2.)

2. On January 1, 1991, the subject property is a three (3)-bedroom ranch style house with thirteen hundred (1300) square feet. On December 1, 1991, the house burns to the ground. A change in the assessed value for the 1992 tax year is warranted.

3. On January 1, 1991, the subject property is a five (5)-acre vacant lot zoned agricultural. On December 1, 1991, the property is rezoned commercial. No new construction is added to the property. A change in the assessed value for the 1992 tax year is not warranted.

4. On January 1, 1991, the subject property is a three (3)-bedroom ranch style house located on ten (10) acres of land in the rural area of the county. On December 1, 1991, the county began operation of a landfill on property adjacent to the subject property. The location and operation of the landfill negatively affect the value of the subject property. A change in the value for the 1992 tax year is not warranted.

5. On January 1, 1991, the subject property is a three (3)-bedroom ranch style house with thirteen hundred (1300) square feet which is twenty (20) years old. On January 1, 1992, the subject property is twenty-one (21) years old. It is generally recognized in the appraisal of



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property that as property ages it physically deteriorates and it may be necessary to make a deduction for physical depreciation under the cost approach for value. A change in value for the 1992 tax year is not warranted.

(4) The examples used in this rule are by way of illustration only and not to be deemed to be the only instances to which this rule applies.

*AUTHORITY: sections 137.115, RSMo Supp. 1992 and 138.320, RSMo 1986.\* Original rule filed May 14, 1991, effective Oct. 31, 1991.*

*\*Original authority: 137.115, RSMo 1939, amended 1945, 1951, 1959, 1972, 1973, 1981, 1983, 1985, 1985, 1986, 1987, 1989, 1990, 1991, 1992 and 138.320, RSMo 1939, amended 1945.*

### **12 CSR 30-3.005 Appeals of the Assessment of Real Property to the Local Board of Equalization Under the Two-Year Assessed Value Cycle**

*PURPOSE: This rule establishes how appeals of the assessment of real property to the local boards of equalization are to be accomplished under the two-year assessed value cycle and to ensure that the commission's authority to render decisions and orders in appeals from local boards of equalization is not compromised at the local level.*

(1) Appeals to the Local Board of Equalization in Odd-Numbered Years. Appeals to the local board of equalization in odd-numbered years from assessment placed on real property by the county assessor shall be made by the aggrieved taxpayer in the manner required by law.

(2) Appeals to the Local Board of Equalization in Even-Numbered Years.

(A) If a taxpayer did not file an appeal of an assessment of real property from the local board of equalization to the State Tax Commission in the odd-numbered year, the appeal to the local board of equalization in the even-numbered year shall be made by the aggrieved taxpayer in the manner required by law.

(B) If a taxpayer did file an appeal of an assessment of real property from the local board of equalization to the State Tax Commission in the odd-numbered year, the local board of equalization shall accept as duly filed appeal of the assessment in the even-numbered year, a notice from the State Tax Commission to the county clerk that an appeal of the odd-numbered year's assessment is presently pending before the State Tax Commission. This notice shall constitute the filing of an appeal in writing to the local board of equalization on behalf of the taxpayer. The local board of equalization shall hear and decide an appeal in the same manner it would hear and decide other appeals to it. The notice filed by the State Tax Commission on behalf of the taxpayer shall be filed before April 1 of the even-numbered year.

(3) Nothing in this rule shall prevent a taxpayer from filing an appeal of the assessment of real property on his/her own behalf in the even-numbered year from dismissing an appeal before the



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local board of equalization filed on his/her behalf by the State Tax Commission, or from appearing and presenting evidence at a hearing on his/her appeal at the local board of equalization.

*AUTHORITY: section 137.115.1., 138.060.1., 138.431.3. RSMo Supp. 1992 and 137.275 and 137.385, RSMo 1986. \* Original rule filed May 14, 1991, effective Oct. 31, 1991.*

*\*Original authority: 137.115.1. RSMo 1939, amended 1945, 1951, 1959, 1972, 1973, 1981, 1983, 1985, 1985, 1986, 1987, 1989, 1990, 1991, 1992 and 137.275, RSMo 1939, amended 1945; 137.385, RSMo 1945; 138.060.1., RSMo 1939, amended 1945, 1992; and 138.431.3., RSMo 1983, amended 1986, 1992.*

### **12 CSR 30-3.010 Appeals From the Local Board of Equalization**

*PURPOSE: This rule informs the local taxpayer of his/her right to protest by complaint or appeal an assessed value which s/he feels is unlawful, unfair, improper, arbitrary, or capricious and the procedure for filing these complaints or appeals.*

(1) Every owner of real property or tangible personal property shall have the right to appeal from the decision of the local board of equalization, upon compliance with the following rules:

(A) This appeal shall be initiated by filing a complaint on forms prescribed by this commission and directed to the State Tax Commission. No complaint will be accepted unless on forms prescribed by this commission; provided, that any complainant may attach to commission forms any additional written pleading deemed appropriate by complainant. The complaint shall specify the name of the complainant; the business address of the complainant or an attorney to whom notice of hearing may be mailed; the legal description of the real property or the complete description of the tangible personal property at issue; a brief statement of the grounds upon which the assessment of the property is claimed to be unlawful, unfair, improper, arbitrary, or capricious; a statement that the complainant had appealed to the proper local board of equalization; a statement of the relief to which complainant may feel entitled; if required under 12 CSR 30-3.025(3), a verified statement which states facts tending to demonstrate that the commission should reconsider the appropriateness of the value in the even-numbered year; and other information as shall be requested upon the commission forms;

(B) A complaint appealing a property assessment shall be filed not later than September 30 or within thirty (30) days of the decision of the board of equalization, whichever is later.



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1. In any county or the City of St. Louis, the owner may appeal directly to the State Tax Commission (a) where the assessor fails to notify the current owner of the property of an initial assessment or an increase in assessment from the previous year, prior to thirty (30) days before the deadline for filing an appeal to the board of equalization, including instances in which real property was transferred and the prior owner was notified, or (b) where a new owner purchased real property less than thirty (30) days before the deadline for filing an appeal to the board of equalization or later in the tax year, regardless if the assessment is an initial assessment, an increase or decrease in assessment, or an assessment established in the prior year. Appeals under this paragraph shall be filed within thirty (30) days after a county official mailed a tax statement or otherwise first communicated the assessment or the amount of taxes to the owner or on or before December 31 of the tax year in question, whichever is later. Proof of late notice, the date of purchase, and/or notice sent to the prior owner shall be attached to, or set forth in, the complaint.

2. A property owner who, due to lack of notice, files an appeal directly with the State Tax Commission after tax statements are mailed should pay his or her taxes under protest pursuant to the requirements of section 139.031, RSMo, and the county collector shall upon receiving either the payment under protest or the notice specified in section 138.430, RSMo, impound all portions of taxes which are in dispute;

(C) Any complaint shall be served upon the State Tax Commission personally to any commissioner or to the administrative secretary of the commission, by certified, registered, regular, private carrier service mail or electronic transmission addressed to the State Tax Commission in Jefferson City. For purposes of this rule, electronic transmission shall mean facsimile transmission or email.

1. If personal service is made, it may be proven by the affidavit of any person competent to testify, or by the official certificate of any officer authorized under the laws of Missouri to execute process. In determining whether complaints personally served are filed within the time prescribed by law, the date on which personal service is obtained shall be deemed to be the date the complaint is filed with the commission.

2. In determining whether complaints are filed within the time prescribed by law, the complaints may be transmitted to the commission by registered, certified, or regular mail or by private carrier service. Complaints filed by registered or certified mail shall be deemed filed with the commission as of the date deposited with the United States Postal Service. Complaints filed by private carrier service shall be deemed filed as of the date shown by the record of the mailing. Complaints filed by regular or metered mail shall be deemed filed on the date of post office cancellation; or three (3) days before the date the commission receives the complaints if there is no dated post office cancellation.

3. In determining whether complaints filed by electronic transmission are filed within the time prescribed by law, complaints so filed shall be deemed filed with the commission as of the date the electronic transmission is received by the commission. A complaint filed by electronic transmission shall have the same effect as the filing of an original document and an electronic signature shall have the same effect as an original signature;

(D) Two (2) copies of the complaint shall be filed with the commission, one (1) copy of which will be forwarded to the assessor with notice of institution of the proceedings to review assessment; and



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(E) The State Tax Commission shall set appeals for conferences and hearings in the county of assessment or in any other location in the state as the commission deems necessary for the efficient management of the appeal docket. Conferences and hearings may be conducted by electronic means where practicable.

(2) On any appeal taken to the commission from the local board of equalization, a natural person may represent him/herself in the proceedings before the commission. The county assessor, but not a deputy, may represent his/her office in such proceedings. All others must appear through an attorney licensed to practice law in Missouri or in another jurisdiction.

(A) Any person who signs a pleading or brief, or who enters an appearance at a hearing for an entity or another person, by an act expressly represents that s/he is authorized to so act and that s/he is a licensed attorney-at-law in this state or his/her state of residence.

(B) Any attorney not licensed in this state but who is a member in good standing of the bar of any court of record may be permitted to appear and participate in a particular appeal(s) before the commission under the following conditions: The visiting attorney shall file with his/her initial pleading a receipt for his/her *pro hac vice* authorization from the clerk of the Missouri Supreme Court to appear before the commission on the designated appeal or appeals along with a statement identifying each court of which s/he is a member of the bar and certifying that neither s/he nor any member of his/her firm is disqualified from appearing in any such court. Also, the statement shall designate some member of the Missouri Bar having an office in Missouri as associate counsel. This designated attorney shall enter his/her appearance as an attorney of record.

(3) When a lawyer is a witness for his/her client, except as to merely formal matters, s/he should leave the trial of the case to other counsel. Except when essential to the ends of justice, a lawyer should avoid testifying before this commission in behalf of his/her client.

(4) The commission shall make arrangements to have all appeal hearings suitably recorded and preserved. Upon a motion of a party filed at least seven (7) days prior to the hearing, the commission may approve the recording and transcription of any hearing by a court reporter hired by a party provided that such party shall furnish the commission and the opposing party a copy of the transcript at no cost and the party supplying the court reporter and the court reporter agree that such transcript retained by the commission shall be available for inspection and copying by the public pursuant to Chapter 610, RSMo. The commission may adopt the resulting transcript as the official record of the proceeding.

(5) The fundamental rules of evidence will apply at hearings before the commission.

(6) In computing any period of time prescribed or allowed by these rules, by order of the commission, or by any applicable statute, the day of the act, event, or default after which the designated period of time begins to run is not to be included. The last day of the period so computed is to be included, unless it is a Saturday, Sunday, or a legal holiday, in which event the period runs until the end of the next day which is neither a Saturday, Sunday, nor a legal holiday. When the period of time prescribed or allowed is less than seven (7) days, intermediate Saturdays, Sundays, and legal holidays shall be excluded in the computation.



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(7) When by these rules or by a notice given thereunder or by order of the commission an act is required or allowed to be done at or within a specified time, the commission for cause shown may at any time in its discretion 1) with or without motion or notice order the period enlarged if request is made before the expiration of the period originally prescribed or as extended by previous order or 2) upon notice and motion made after the expiration of the specified period permit the act to be done where the failure to act was the result of excusable neglect; but the commission may not extend the time for taking any action under rules 12 CSR 30-2.021(1)(A); 12 CSR 30-3.021(1)(C); 12 CSR 30-3.005—Appeals of the Assessment of Real Property to the Local Board of Equalization Under the Two-Year Assessed Value Cycle; 12 CSR 30-3.010—Appeals from the Local Board of Equalization; 12 CSR 30-3.020—Intervention; or 12 CSR 30-3.025—Collateral Estoppel.

(8) Any complaint, correspondence, routine motion, or application for review shall be accepted for filing by electronic transmission. Electronic filings received by the commission before 5:00 p.m. of a regular workday are deemed filed as of that day. Filings received after 5:00 p.m. are deemed filed on the next regular commission workday. Time of receipt is determined by the commission's facsimile machine or computer. The time when transmission began shall be used to determine if transmission occurred prior to 5:00 p.m. If a document is not received by the commission or if it is illegible, it is deemed not filed. Risk of loss in transmission, receipt, or illegibility is upon the party transmitting and filing by electronic transmission. The person filing a complaint, correspondence, motion, application for review, or other filing by electronic transmission shall retain the signed filing and make it available upon order of the commission.

(9) No cameras, lights, or mechanical recording devices shall be operated in the hearing room while the hearing is in progress, other than by personnel of the commission or by a court reporter with the permission of the commission.

*AUTHORITY: section 138.430, RSMo Supp. 2012.\* This rule was previously filed as 12 CSR 30-2.030. Original rule filed Dec. 13, 1983, effective March 12, 1984. Amended: Filed April 21, 1988, effective Sept. 11, 1988. Rescinded and readopted: Filed May 14, 1991, effective Oct. 31, 1991. Amended: Filed Aug. 23, 1995, effective Jan. 30, 1996. Rescinded and readopted: Filed June 12, 2002, effective Nov. 30, 2002. Amended: Filed Oct. 7, 2004, effective May 30, 2005. Amended: Filed Dec. 21, 2007, effective June 30, 2008. Amended: Filed Oct. 2, 2008, effective May 30, 2009. Amended: Filed April 28, 2009, effective Nov. 30, 2009. Amended: Filed Dec. 21, 2009, effective June 30, 2010. Amended: Filed Jan. 27, 2011, effective July 30, 2011. Amended: Filed Aug. 16, 2012, effective Feb. 28, 2013.*

*\*Original authority: 138.430, RSMo 1939, amended 1945, 1947, 1978, 1983, 1989, 1999, 2008.*

### **12 CSR 30-3.015 Orders of the Commission Under the Two-Year Assessed Value Cycle**

**PURPOSE:** This rule establishes the procedure for implementing commission decisions under the two-year assessed value cycle for real property.





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(1) In an appeal to the commission from the local board of equalization, the decision and order issued by the commission shall set the assessed value of the real property which is the subject of the appeal for both the first year of the two (2)-year cycle (odd-numbered year) and the second year of the two (2)-year cycle (even-numbered year), unless one (1) of the following conditions are met:

(A) The taxpayer did not file an appeal of his/her assessment to the commission in the odd-numbered year; or

(B) At the hearing before the commission or one (1) of its hearing officers on the appeal of the odd-numbered year's assessment, the assessor or the taxpayer presents evidence which shows that there has been new construction or property improvements to the subject property as defined in 12 CSR 30-3.001 during the odd-numbered year.

(2) A decision and order issued by the commission which sets the assessed value of a property for both years of the two (2)-year cycle shall be implemented for the even-numbered year as follows:

(A) If the decision and order is issued and becomes final prior to the assessor returning the assessor's book for the even-numbered year to the county governing body, the assessor shall enter the assessed value as determined by the commission into the assessor's book;

(B) If the decision and order is issued and becomes final after the assessor returns the assessor's book for the even-numbered year to the county governing body but before the local board of equalization issues a decision on an appeal of the assessment to it in the even-numbered year, the local board of equalization shall issue its decision based on the assessed value as determined by the commission; and

(C) If the decision and order is issued and becomes final after the local board of equalization issues a decision on an appeal of an assessment to it in the even-numbered year, if the assessed value is changed by the commission, the county clerk shall enter the assessed value as determined by the commission in the supplemental tax book of the county for the even-numbered year.

*AUTHORITY: sections 137.115.1. and 138.431.3., RSMo Supp. 1992. Original rule filed May 14, 1991, effective Oct. 31, 1991.*

*\*Original authority: 137.115.1., RSMo 1939, amended 1945, 1951, 1959, 1972, 1973, 1981, 1983, 1985, 1985, 1986, 1987, 1989, 1990, 1991, 1992 and 138.431.3., RSMo 1983, 1986, 1992.*

### **12 CSR 30-3.020 Intervention**

*PURPOSE: This rule establishes the procedure for nonparties to appear and be heard and for intervention.*



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(1) *All persons affected or liable to be affected by review by the commission of any assessment, whether or not they are made parties to the appeal by intervention, may submit a memorandum setting forth their position on the issue(s) in the given appeal, and serve a copy of same upon counsel for the parties or upon the parties if there is no counsel. However, nonparties are not entitled to notice of hearings and decisions, except as provided generally by section 610.020, RSMo, unless they are made designated persons by the complainants as provided by section 536.067(3), RSMo. Nonparties are not entitled to take depositions, nor entitled to the issuance of subpoenas nor to introduce exhibits, testify, or cross-examine witnesses.*

(2) Any person may apply for leave to intervene in any contested case before the commission by serving a motion for leave to intervene upon all then existing parties and upon the commission. The motion shall state the grounds for it and whether the applicant is seeking to intervene on behalf of the complainant or the respondent. The motion shall be filed within sixty (60) days of the time of the notice of institution of the case. Oral argument will be scheduled by the commission on the motion only if there is a written objection to the intervention filed by any party not later than fifteen (15) days after the filing of the motion to intervene. Upon its own motion, the commission, in any case, may order that oral argument be had on the issue of the proposed intervention. A separate motion must be filed for each contested case in which an applicant seeks to intervene.

(3) An applicant may be granted permission to become an intervenor based upon a balancing of the nature and the extent of the interest of all of the complainants, respondents, intervenors and applicants in the appeal. For example, in the case of an appeal filed pursuant to section 138.430, RSMo, the commission may grant an applicant the status of intervenor based upon the following five

(5) interests if they are found to weigh in balance in favor of the applicant:

(A) Substantially all of the applicant's operating revenues are derived from *ad valorem* tax revenues;

(B) If the decreases in assessed valuation paid by the complainants and against which the tax rate established by the applicant will be applied are granted by the commission, then decreases in assessed valuation will reduce the tax revenues available for distribution to the applicant;

(C) A reduction in the tax revenues will have a direct and immediate impact upon the applicant;

(D) The respondent, an existing party, may not adequately represent the interests of the applicant; and

(E) The complainants will not be prejudiced by intervention nor will they be precluded from protecting or asserting their interest in decreases in assessed valuation.

(4) For the purpose of this rule, person is defined as provided by section 1.020, RSMo.

*AUTHORITY: sections 138.430 and 536.063(1), RSMo 2000\* and Article X, section 14, Mo. Const. 1945. This rule was previously filed as 12 CSR 30-2.050. Original rule filed Dec. 13, 1983, effective March 12, 1984. Amended: Filed Oct. 7, 2004, effective May 30, 2005.*

*\*Original authority: 138.430, RSMo 1939, amended 1945, 1947, 1978, 1983, 1999; and 536.063, RSMo 1957.*



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*State ex rel. Brentwood School District v. State Tax Commission* 588 SW2d 613 (Mo. banc 1979). *State Tax Commission rule on intervention cannot violate school district's due process rights, since the district is not a "person" within the contemplation of the due process clause and so has no such rights.*

### **12 CSR 30-3.075 Receipt of Evidence Indicating Value Greater than Assessor or Board— First Class Charter Counties**

*PURPOSE:* This rule explains the procedures which hearing officers are to follow relative to evidence offered by assessors in first class charter counties which indicates a property value greater than the value that has been determined by the board of equalization or the assessor previously.

(1) In any case in a first class charter county or a city not within a county, where the assessor presents evidence which indicates a valuation higher than the value finally determined by the assessor or the value determined by the board of equalization, whichever is higher, for that assessment period, such evidence will only be received for the purpose of sustaining the assessor's or board's valuation, and not for increasing the valuation of the property under appeal.

*AUTHORITY:* sections 138.060 and 138.430, RSMo 2000. \* Original rule filed Oct. 24, 2000, effective June 30, 2001.

\*Original authority: 138.060, RSMo 1939, amended 1945, 1992, 1993; 138.430, RSMo 1939, amended 1945, 1947, 1978, 1983, 1989, 1999.

### **12 CSR 30-3.090 Determining Class Life for Tangible Personal Property**

*PURPOSE:* This rule sets out the publication assessors are to use when estimating value for depreciable tangible personal property for mass appraisal purposes.

(1) For purposes of assessors estimating the value of depreciable tangible personal property for mass appraisal purposes in accordance with section 137.122, RSMo, class life and recovery periods shall be determined by reference to Internal Revenue Service Publication 946—How to Depreciate Property or successor publications thereto. Specifically, class lives and recovery periods shall be determined by reference to Appendix B—Table of Class Lives and Recovery Periods. Class life shall be determined under Table B-1 and Table B-2 under the column—Class Life (in years). Recovery period shall be determined by the number corresponding to the Class Life number for given items of machinery, tools, appliances and equipment under the column—GDS (MACRS).



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*AUTHORITY: section 138.430, RSMo 2000.\* Original rule filed April 13, 2006, effective Oct. 30, 2006.*

*\*Original authority: 138.430, RSMo 1939, amended 1945, 1947, 1978, 1983, 1989, 1999.*



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**Administrative Procedure and Review**

**536.010. Definitions.** — For the purpose of this chapter:

(2) **"Agency"** means any administrative officer or body existing under the constitution or by law and authorized by law or the constitution to make rules or to adjudicate contested cases, except those in the legislative or judicial branches;

(4) **"Contested case"** means a proceeding before an agency in which legal rights, duties or privileges of specific parties are required by law to be determined after hearing;

(5) The term **"decision"** includes decisions and orders whether negative or affirmative in form;

(8) **"State agency"** means each board, commission, department, officer or other administrative office or unit of the state other than the general assembly, the courts, the governor, or a political subdivision of the state, existing under the constitution or statute, and authorized by the constitution or statute to make rules or to adjudicate contested cases.

**536.060. Informal disposition of case by stipulation — summary action — waiver.**

Nothing contained in sections 536.060 to 536.095 shall be construed (1) to impair the power of any agency to take lawful summary action in those matters where a contested case is not required by law, or (2) to prevent any agency authorized to do so from assisting claimants or other parties in any proper manner, or (3) to prevent the waiver by the parties (including, in a proper case, the agency) of procedural requirements which would otherwise be necessary before final decision, or (4) to prevent stipulations or agreements among the parties (including, in a proper case, the agency).

**536.063. Contested case, how instituted — pleadings — copies sent parties.** — In any contested case:

(1) The contested case shall be commenced by the filing of a writing by which the party or agency instituting the proceeding seeks such action as by law can be taken by the agency only after opportunity for hearing, or seeks a hearing for the purpose of obtaining a decision reviewable upon the record of the proceedings and evidence at such hearing, or upon such record and additional evidence, either by a court or by another agency. Answering, intervening and amendatory writings and motions may be filed in any case and shall be filed where required by rule of the agency, except that no answering instrument shall be required unless the notice of institution of the case states such requirement. Entries of appearance shall be permitted;

(2) Any writing filed whereby affirmative relief is sought shall state what relief is sought or proposed and the reason for granting it, and shall not consist merely of statements or charges phrased in the language of a statute or rule; provided, however, that this subdivision shall not apply when the writing is a notice of appeal as authorized by law;



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(3) Reasonable opportunity shall be given for the preparation and presentation of evidence bearing on any issue raised or decided or relief sought or granted. Where issues are tried without objection or by consent, such issues shall be deemed to have been properly before the agency. Any formality of procedure may be waived by mutual consent;

(4) Every writing seeking relief or answering any other writing, and any motion shall state the name and address of the attorney, if any, filing it; otherwise the name and address of the party filing it;

(5) By rule the agency may require any party filing such a writing to furnish, in addition to the original of such writing, the number of copies required for the agency's own use and the number of copies necessary to enable the agency to comply with the provisions of this subdivision hereinafter set forth. The agency shall, without charge therefor, mail one copy of each such writing, as promptly as possible after it is filed, to every party or his or her attorney who has filed a writing or who has entered his or her appearance in the case, and who has not theretofore been furnished with a copy of such writing and shall have requested copies of the writings; provided that in any case where the parties are so numerous that the requirements of this subdivision would be unduly onerous, the agency may in lieu thereof (a) notify all parties of the fact of the filing of such writing, and (b) permit any party to copy such writing;

(6) When a holder of a license, registration, permit, or certificate of authority issued by the division of professional registration or a board, commission, or committee of the division of professional registration against whom an affirmative decision is sought has failed to plead or otherwise respond in the contested case and adequate notice has been given under section 536.067 upon a properly pled writing filed to initiate the contested case under this chapter, a default decision shall be entered against the licensee without further proceedings. The default decision shall grant such relief as requested by the division of professional registration, board, committee, commission, or office in the writing initiating the contested case as allowed by law. Upon motion stating facts constituting a meritorious defense and for good cause shown, a default decision may be set aside. The motion shall be made within a reasonable time, not to exceed thirty days after entry of the default decision. **"Good cause"** includes a mistake or conduct that is not intentionally or recklessly designed to impede the administrative process.

**536.067. Notice in contested case — mailing — contents — notice of hearing — time for.**  
— In any contested case:

(1) The agency shall promptly mail a notice of institution of the case to all necessary parties, if any, and to all persons designated by the moving party and to any other persons to whom the agency may determine that notice should be given. The agency or its clerk or secretary shall keep a permanent record of the persons to whom such notice was sent and of the addresses to which sent and the time when sent. Where a contested case would affect the rights, privileges or duties of a large number of persons whose interests are sufficiently similar that they may be considered as a class, notice may in a proper case be given to a reasonable number thereof as representatives of such class. In any case where the name or address of any proper or designated



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party or person is not known to the agency, and where notice by publication is permitted by law, then notice by publication may be given in accordance with any rule or regulation of the agency or if there is no such rule or regulation, then, in a proper case, the agency may by a special order fix the time and manner of such publication;

(2) The notice of institution of the case to be mailed as provided in this section shall state in substance:

- (a) The caption and number of the case;
- (b) That a writing seeking relief has been filed in such case, the date it was filed, and the name of the party filing the same;
- (c) A brief statement of the matter involved in the case unless a copy of the writing accompanies said notice;
- (d) Whether an answer to the writing is required, and if so the date when it must be filed;
- (e) That a copy of the writing may be obtained from the agency, giving the address to which application for such a copy may be made. This may be omitted if the notice is accompanied by a copy of such writing;
- (f) The location in the Code of State Regulations of any rules of the agency regarding discovery or a statement that the agency shall send a copy of such rules on request;

(3) Unless the notice of hearing hereinafter provided for shall have been included in the notice of institution of the case, the agency shall, as promptly as possible after the time and place of hearing have been determined, mail a notice of hearing to the moving party and to all persons and parties to whom a notice of institution of the case was required to be or was mailed, and also to any other persons who may thereafter have become or have been made parties to the proceeding. The notice of hearing shall state:

- (a) The caption and number of the case;
- (b) The time and place of hearing;
- (4) No hearing in a contested case shall be had, except by consent, until a notice of hearing shall have been given substantially as provided in this section, and such notice shall in every case be given a reasonable time before the hearing. Such reasonable time shall be at least ten days except in cases where the public morals, health, safety or interest may make a shorter time reasonable; provided that when a longer time than ten days is prescribed by statute, no time shorter than that so prescribed shall be deemed reasonable;

(5) When a holder of a license, registration, permit, or certificate of authority issued by the division of professional registration or a board, commission, or committee of the division of



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professional registration against whom an affirmative decision is sought has failed to plead or otherwise respond in the contested case and adequate notice has been given under this section upon a properly pled writing filed to initiate the contested case under this chapter, a default decision shall be entered against the holder of a license, registration, permit, or certificate of authority without further proceedings. The default decision shall grant such relief as requested by the division of professional registration, board, committee, commission, or office in the writing initiating the contested case as allowed by law. Upon motion stating facts constituting a meritorious defense and for good cause shown, a default decision may be set aside. The motion shall be made within a reasonable time, not to exceed thirty days after entry of the default decision. **"Good cause"** includes a mistake or conduct that is not intentionally or recklessly designed to impede the administrative process.

**536.070. Evidence — witnesses — objections — judicial notice — affidavits as evidence — transcript.** — In any contested case:

- (1) Oral evidence shall be taken only on oath or affirmation;
- (2) Each party shall have the right to call and examine witnesses, to introduce exhibits, to cross-examine opposing witnesses on any matter relevant to the issues even though that matter was not the subject of the direct examination, to impeach any witness regardless of which party first called him or her to testify, and to rebut the evidence against him or her;
- (3) A party who does not testify in his or her own behalf may be called and examined as if under cross-examination;
- (4) Each agency shall cause all proceedings in hearings before it to be suitably recorded and preserved. A copy of the transcript of such a proceeding shall be made available to any interested person upon the payment of a fee which shall in no case exceed the reasonable cost of preparation and supply;
- (5) Records and documents of the agency which are to be considered in the case shall be offered in evidence so as to become a part of the record, the same as any other evidence, but the records and documents may be considered as a part of the record by reference thereto when so offered;
- (6) Agencies shall take official notice of all matters of which the courts take judicial notice. They may also take official notice of technical or scientific facts, not judicially cognizable, within their competence, if they notify the parties, either during a hearing or in writing before a hearing, or before findings are made after hearing, of the facts of which they propose to take such notice and give the parties reasonable opportunity to contest such facts or otherwise show that it would not be proper for the agency to take such notice of them;
- (7) Evidence to which an objection is sustained shall, at the request of the party seeking to





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introduce the same, or at the instance of the agency, nevertheless be heard and preserved in the record, together with any cross-examination with respect thereto and any rebuttal thereof, unless it is wholly irrelevant, repetitious, privileged, or unduly long;

(8) Any evidence received without objection which has probative value shall be considered by the agency along with the other evidence in the case. The rules of privilege shall be effective to the same extent that they are now or may hereafter be in civil actions. Irrelevant and unduly repetitious evidence shall be excluded;

(9) Copies of writings, documents and records shall be admissible without proof that the originals thereof cannot be produced, if it shall appear by testimony or otherwise that the copy offered is a true copy of the original, but the agency may, nevertheless, if it believes the interests of justice so require, sustain any objection to such evidence which would be sustained were the proffered evidence offered in a civil action in the circuit court, but if it does sustain such an objection, it shall give the party offering such evidence reasonable opportunity and, if necessary, opportunity at a later date, to establish by evidence the facts sought to be proved by the evidence to which such objection is sustained;

(10) Any writing or record, whether in the form of an entry in a book or otherwise, made as a memorandum or record of an act, transaction, occurrence or event, shall be admissible as evidence of the act, transaction, occurrence or event, if it shall appear that it was made in the regular course of any business, and that it was the regular course of such business to make such memorandum or record at the time of such act, transaction, occurrence, or event or within a reasonable time thereafter. All other circumstances of the making of such writing or record, including lack of personal knowledge by the entrant or maker, may be shown to affect the weight of such evidence, but such showing shall not affect its admissibility. The term "**business**" shall include business, profession, occupation and calling of every kind;

(11) The results of statistical examinations or studies, or of audits, compilations of figures, or surveys, involving interviews with many persons, or examination of many records, or of long or complicated accounts, or of a large number of figures, or involving the ascertainment of many related facts, shall be admissible as evidence of such results, if it shall appear that such examination, study, audit, compilation of figures, or survey was made by or under the supervision of a witness, who is present at the hearing, who testifies to the accuracy of such results, and who is subject to cross-examination, and if it shall further appear by evidence adduced that the witness making or under whose supervision such examination, study, audit, compilation of figures, or survey was made was basically qualified to make it. All the circumstances relating to the making of such an examination, study, audit, compilation of figures or survey, including the nature and extent of the qualifications of the maker, may be shown to affect the weight of such evidence but such showing shall not affect its admissibility;

(12) Any party or the agency desiring to introduce an affidavit in evidence at a hearing in a contested case may serve on all other parties (including, in a proper case, the agency) copies of such affidavit in the manner hereinafter provided, at any time before the hearing, or at such later



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time as may be stipulated. Not later than seven days after such service, or at such later time as may be stipulated, any other party (or, in a proper case, the agency) may serve on the party or the agency who served such affidavit an objection to the use of the affidavit or some designated portion or portions thereof on the ground that it is in the form of an affidavit; provided, however, that if such affidavit shall have been served less than eight days before the hearing such objection may be served at any time before the hearing or may be made orally at the hearing. If such objection is so served, the affidavit or the part thereof to which objection was made, may not be used except in ways that would have been permissible in the absence of this subdivision; provided, however, that such objection may be waived by the party or the agency making the same. Failure to serve an objection as aforesaid, based on the ground aforesaid, shall constitute a waiver of all objections to the introduction of such affidavit, or of the parts thereof with respect to which no such objection was so served, on the ground that it is in the form of an affidavit, or that it constitutes or contains hearsay evidence, or that it is not, or contains matters which are not, the best evidence, but any and all other objections may be made at the hearing. Nothing herein contained shall prevent the cross-examination of the affiant if he or she is present in obedience to a subpoena or otherwise and if he or she is present, he or she may be called for cross-examination during the case of the party who introduced the affidavit in evidence. If the affidavit is admissible in part only it shall be admitted as to such part, without the necessity of preparing a new affidavit. The manner of service of such affidavit and of such objection shall be by delivering or mailing copies thereof to the attorneys of record of the parties being served, if any, otherwise, to such parties, and service shall be deemed complete upon mailing; provided, however, that when the parties are so numerous as to make service of copies of the affidavit on all of them unduly onerous, the agency may make an order specifying on what parties service of copies of such affidavit shall be made, and in that case a copy of such affidavit shall be filed with the agency and kept available for inspection and copying. Nothing in this subdivision shall prevent any use of affidavits that would be proper in the absence of this subdivision.

**536.073. Depositions, use of — how taken — discovery, when available — enforcement — administrative hearing commission to make rules for depositions by stipulation — rules subject to suspension by joint committee on administrative rules. —** 1. In any contested case before an agency created by the constitution or state statute, any party may take and use depositions in the same manner, upon and under the same conditions, and upon the same notice, as is or may hereafter be provided for with respect to the taking and using of depositions in civil actions in the circuit court; provided, that any commission which may be required shall be issued\* out of the circuit court or the office of the clerk thereof, within and for the county where the headquarters of the agency is located or where the hearing is to be held; and provided further, that no commissioner shall be appointed for the taking in this state of depositions.

2. In addition to the powers granted in subsection 1 of this section, any agency authorized to hear a contested case may make rules to provide that the parties may obtain all or any designated part of the same discovery that any Missouri supreme court rule provides for civil actions in circuit court. The agency may enforce discovery by the same methods, terms and conditions as



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provided by supreme court rule in civil actions in the circuit court. Except as otherwise provided by law, no agency discovery order which:

- (1) Requires a physical or mental examination;
- (2) Permits entrance upon land or inspection of property without permission of the owner; or
- (3) Purports to hold any person in contempt; shall be enforceable except upon order of the circuit court of the county in which the hearing will be held or the circuit court of Cole County at the option of the person seeking enforcement, after notice and hearing.

**536.075. Discovery rule violations, sanctions.** — In any proceeding before the administrative hearing commission, where a party to the proceeding moves for sanctions for an alleged violation of any discovery rule, the moving party shall in the motion certify that reasonable efforts were made to resolve the dispute informally with the opposing party.

**536.077. Subpoenas, issuance — form — how served — how enforced.** — In any contested case before an agency created by the constitution or state statute, such agency shall upon request of any party issue subpoenas and shall in a proper case issue subpoenas duces tecum. Subpoenas other than subpoenas duces tecum shall on request of any party be issued with the caption and number of the case, the name of the witness, and the date for appearance in blank, but such caption, number, name and date shall be filled in by such party before service. Subpoenas shall extend to all parts of the state, and shall be served and returned as in civil actions in the circuit court. The witness shall be entitled to the same fees and, if compelled to travel more than forty miles from his place of residence, shall be entitled to the same tender of fees for travel and attendance, and at the same time, as is now or may hereafter be provided for witnesses in civil actions in the circuit court, such fees to be paid by the party or agency subpoenaing him, except where the payment of such fees is otherwise provided for by law. The agency or the party at whose request the subpoena is issued shall enforce subpoenas by applying to a judge of the circuit court of the county of the hearing or of any county where the witness resides or may be found for an order upon any witness who shall fail to obey a subpoena to show cause why such subpoena should not be enforced, which said order and a copy of the application therefor shall be served upon the witness in the same manner as a summons in a civil action, and if the said circuit court shall, after a hearing, determine that the subpoena should be sustained and enforced, said court shall proceed to enforce said subpoena in the same manner as though said subpoena had been issued in a civil case in the circuit court. The court shall permit the agency and any party to intervene in the enforcement action. Any such agency may delegate to any member, officer, or employee thereof the power to issue subpoenas in contested cases; provided that, except where otherwise authorized by law, subpoenas duces tecum shall be issued only by order of the agency or a member thereof.

**536.080. Parties may file briefs — officials to hear or read evidence.** — 1. In contested cases each party shall be entitled to present oral arguments or written briefs at or after the



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hearing which shall be heard or read by each official of the agency who renders or joins in rendering the final decision.

2. In contested cases, each official of an agency who renders or joins in rendering a final decision shall, prior to such final decision, either hear all the evidence, read the full record including all the evidence, or personally consider the portions of the record cited or referred to in the arguments or briefs. The parties to a contested case may by written stipulation or by oral stipulation in the record at a hearing waive compliance with the provisions of this section.

**536.083. Hearing officer not to conduct rehearing or appeal involving same issues and parties.** — Notwithstanding any other provision of law to the contrary, in any administrative hearing conducted under the procedures established in this chapter, and in any other administrative hearing conducted under authority granted any state agency, no person who acted as a hearing officer or who otherwise conducted the first administrative hearing involving any single issue shall conduct any subsequent administrative rehearing or appeal involving the same issue and same parties.

**536.085. Definitions.** — As used in section 536.087, the following terms mean:

(1) **"Agency proceeding"**, an adversary proceeding in a contested case pursuant to this chapter in which the state is represented by counsel, but does not include proceedings for determining the eligibility or entitlement of an individual to a monetary benefit or its equivalent, child custody proceedings, eminent domain proceedings, driver's license proceedings, vehicle registration proceedings, proceedings to establish or fix a rate, or proceedings before the state tax commission;

(2) **"Party"**:

(a) An individual whose net worth did not exceed two million dollars at the time the civil action or agency proceeding was initiated; or

(b) Any owner of an unincorporated business or any partnership, corporation, association, unit of local government or organization, the net worth of which did not exceed seven million dollars at the time the civil action or agency proceeding was initiated, and which had not more than five hundred employees at the time the civil action or agency proceeding was initiated;

(3) **"Prevails"**, obtains a favorable order, decision, judgment, or dismissal in a civil action or agency proceeding;

(4) **"Reasonable fees and expenses"** includes the reasonable expenses of expert witnesses, the reasonable cost of any study, analysis, engineering report, test, or project which is found by the court or agency to be necessary for the preparation of the party's case, and reasonable attorney or agent fees. The amount of fees awarded as reasonable fees and expenses shall be based upon prevailing market rates for the kind and quality of the services furnished, except that no expert witness shall be compensated at a rate in excess of the highest rate of compensation for expert witnesses paid by the state in the type of civil action or agency proceeding, and attorney fees shall not be awarded in excess of seventy-five dollars per hour unless the court determines



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that a special factor, such as the limited availability of qualified attorneys for the proceedings involved, justifies a higher fee;

(5) **"State"**, the state of Missouri, its officers and its agencies, but shall not include political subdivisions of the state.

**536.087. Reasonable fees and expenses awarded prevailing party in civil action or agency proceeding — application, content, filed with court or agency where party appeared — appeal by state, effect — power of court or agency to reduce requested amount or deny, when — form of award — judicial review, when. —** 1. A party who prevails in an agency proceeding or civil action arising therefrom, brought by or against the state, shall be awarded those reasonable fees and expenses incurred by that party in the civil action or agency proceeding, unless the court or agency finds that the position of the state was substantially justified or that special circumstances make an award unjust.

2. In awarding reasonable fees and expenses under this section to a party who prevails in any action for judicial review of an agency proceeding, the court shall include in that award reasonable fees and expenses incurred during such agency proceeding unless the court finds that during such agency proceeding the position of the state was substantially justified, or that special circumstances make an award unjust.

3. A party seeking an award of fees and other expenses shall, within thirty days of a final disposition in an agency proceeding or final judgment in a civil action, submit to the court, agency or commission which rendered the final disposition or judgment an application which shows that the party is a prevailing party and is eligible to receive an award under this section, and the amount sought, including an itemized statement from any attorney or expert witness representing or appearing in behalf of the party stating the actual time expended and the rate at which fees and other expenses are computed. The party shall also allege that the position of the state was not substantially justified. The fact that the state has lost the agency proceeding or civil action creates no legal presumption that its position was not substantially justified. Whether or not the position of the state was substantially justified shall be determined on the basis of the record (including the record with respect to the action or failure to act by an agency upon which a civil action is based) which is made in the agency proceeding or civil action for which fees and other expenses are sought, and on the basis of the record of any hearing the court or agency deems appropriate to determine whether an award of reasonable fees and expenses should be made, provided that any such hearing shall be limited to consideration of matters which affected the agency's decision leading to the position at issue in the fee application.

4. A prevailing party in an agency proceeding shall submit an application for fees and expenses to the administrative body before which the party prevailed. A prevailing party in a civil action on appeal from an agency proceeding shall submit an application for fees and



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expenses to the court. The filing of an application shall not stay the time for appealing the merits of a case. When the state appeals the underlying merits of an adversary proceeding, no decision on the application for fees and other expenses in connection with that adversary proceeding shall be made under this section until a final and unreviewable decision is rendered by the court on the appeal or until the underlying merits of the case have been finally determined pursuant to the appeal.

5. The court or agency may either reduce the amount to be awarded or deny any award, to the extent that the prevailing party during the course of the proceedings engaged in conduct which unduly and unreasonably protracted the final resolution of the matter in controversy.

6. The decision of a court or an agency on the application for reasonable fees and expenses shall be in writing, separate from the judgment or order of the court or the administrative decision which determined the prevailing party, and shall include written findings and conclusions and the reason or basis therefor. The decision of a court or an agency on the application for fees and other expenses shall be final, subject respectively to appeal or judicial review.

7. If a party or the state is dissatisfied with a determination of fees and other expenses made in an agency proceeding, that party or the state may within thirty days after the determination is made, seek judicial review of that determination from the court having jurisdiction to review the merits of the underlying decision of the agency adversary proceeding. If a party or the state is dissatisfied with a determination of fees and other expenses made in a civil action arising from an agency proceeding, that party or the state may, within the time permitted by law, appeal that order or judgment to the appellate court having jurisdiction to review the merits of that order or judgment. The reviewing or appellate court's determination on any judicial review or appeal heard under this subsection shall be based solely on the record made before the agency or court below. The court may modify, reverse or reverse and remand the determination of fees and other expenses if the court finds that the award or failure to make an award of fees and other expenses, or the calculation of the amount of the award, was arbitrary and capricious, was unreasonable, was unsupported by competent and substantial evidence, or was made contrary to law or in excess of the court's or agency's jurisdiction. Awards made pursuant to this act\* shall be payable from amounts appropriated therefor. The state agency against which the award was made shall request an appropriation to pay the award.

**536.090. Decisions in writing — notice.** — Every decision and order in a contested case shall be in writing, and, except in default cases or cases disposed of by stipulation, consent order or agreed settlement, the decision, including orders refusing licenses, shall include or be accompanied by findings of fact and conclusions of law. The findings of fact shall be stated separately from the conclusions of law and shall include a concise statement of the findings on which the agency bases its order. Immediately upon deciding any contested case the agency shall give written notice of its decision by delivering or mailing such notice to each party, or his



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attorney of record, and shall upon request furnish him with a copy of the decision, order, and findings of fact and conclusions of law.

**536.095. Contempt — procedure for punishment.** — In any hearing in a contested case before an agency created by the constitution or state statute if any person acts or refuses to act in such manner that a contempt of court would have been committed if the case were a civil action before a circuit court, the agency in addition to any other powers it may have by law may apply to a judge of the circuit court of the county of the hearing or of any county where such person resides or may be found, for an order on any such person to show cause why he should not be punished as for contempt, which order and copy of the application therefor shall be served upon the person in the same manner as a summons in a civil action. Thereafter the same proceedings shall be had in such court as in cases of contempt of a circuit court.

**536.100. Party aggrieved entitled to judicial review — waiver of independent review, when.** — Any person who has exhausted all administrative remedies provided by law and who is aggrieved by a final decision in a contested case, whether such decision is affirmative or negative in form, shall be entitled to judicial review thereof, as provided in sections 536.100 to 536.140, unless some other provision for judicial review is provided by statute; provided, however, that nothing in this chapter contained shall prevent any person from attacking any void order of an agency at any time or in any manner that would be proper in the absence of this section. If the agency or any board, other than the administrative hearing commission, established to provide independent review of the decisions of a department or division that is authorized to promulgate rules and regulations under this chapter fails to issue a final decision in a contested case within the earlier of:

- (1) Sixty days after the conclusion of a hearing on the contested case; or
- (2) One hundred eighty days after the receipt by the agency of a written request for the issuance of a final decision, then the person shall be considered to have exhausted all administrative remedies and shall be considered to have received a final decision in favor of the agency and shall be entitled to immediate judicial review as provided in sections 536.100 to 536.140 or other provision for judicial review provided by statute. In cases, whether contested or not, where the law provides for an independent review of an agency's decision by a board other than the administrative hearing commission and further provides for a de novo review of the board's decision by the circuit court, a party aggrieved by the agency's decision may, within thirty days after it receives notice of that decision, waive independent review by the board and instead file a petition in the circuit court for the de novo review of the agency's decision. The party filing the petition under this section shall be considered to have exhausted all administrative remedies.

**536.110. Petition, when filed — process — venue.** — 1. Proceedings for review may be



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instituted by filing a petition in the circuit court of the county of proper venue within thirty days after the mailing or delivery of the notice of the agency's final decision.

2. Such petition may be filed without first seeking a rehearing, but in cases where agencies have authority to entertain motions for rehearing and such a motion is duly filed, the thirty-day period aforesaid shall run from the date of the delivery or mailing of notice of the agency's decision on such motion. No summons shall issue in such case, but copies of the petition shall be delivered to the agency and to each party of record in the proceedings before the agency or to his attorney of record, or shall be mailed to the agency and to such party or his said attorney by registered mail, and proof of such delivery or mailing shall be filed in the case.

3. The venue of such cases shall, at the option of the plaintiff, be in the circuit court of Cole County or in the county of the plaintiff or of one of the plaintiff's residence or if any plaintiff is a corporation, domestic or foreign, having a registered office or business office in this state, in the county of such registered office or business office, except that, in cases involving real property or improvements thereto, the venue shall be the circuit court of the county where such real property is located. The court in its discretion may permit other interested persons to intervene.

**536.120. Suspension of decisions or orders.** — Pending the filing and final disposition of proceedings for review under sections 536.100 to 536.140, the agency may stay the enforcement of its order and may temporarily grant or extend relief denied or withheld. Any court in which such proceedings for review may be pending may issue all necessary and appropriate process to stay or require the agency to stay the enforcement of its order or temporarily to grant or extend or require the agency temporarily to grant or extend relief denied or withheld, pending the final disposition of such proceedings for review. Such stay or other temporary relief by a reviewing court may be conditioned upon such terms as shall appear to the court to be proper. No such stay or temporary relief shall be granted by a reviewing court without notice, except in cases of threatened irreparable injury; and when in any case a stay or other temporary relief is granted without notice the court shall then make an order, of which due notice shall be given, setting the matter down for hearing as promptly as possible on the question whether such stay or other temporary relief shall be continued in effect. No such stay or other temporary relief shall be granted or continued unless the court is satisfied that the public interest will not be prejudiced thereby.

**536.130. Record on judicial review.** — 1. Within thirty days after the filing of the petition or within such further time as the court may allow, the record before the agency shall be filed in the reviewing court. Such record shall consist of any one of the following:

(1) Such parts of the record, proceedings and evidence before the agency as the parties by written stipulation may agree upon;

(2) An agreed statement of the case, agreed to by all parties and approved as correct by the agency;





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(3) A complete transcript of the entire record, proceedings and evidence before the agency. Evidence may be stated in either question and answer or narrative form. Documents may be abridged by omitting irrelevant and formal parts thereof. Any matter not essential to the decision of the questions presented by the petition may be omitted. The decision, order and findings of fact and conclusions of law shall in every case be included.

2. The record filed in the reviewing court shall be properly certified by the agency, and shall be typewritten, mimeographed, printed, or otherwise suitably reproduced. In any case where papers, documents or exhibits are to be made a part of the record in the reviewing court, the originals of all or any part thereof, or photostatic or other copies which may have been substituted therefor, may, if the agency permits, be sent to the reviewing court instead of having the same copied into the record.

3. In any case where any party fails or refuses to agree to the correctness of a record, the agency shall decide as to its correctness and certify the record accordingly. If any party shall be put to additional expense by reason of the failure of another party to agree to a proper shortening of the record, the court may tax the amount of such additional expense against the offending party as costs.

4. The record to be filed in the reviewing court shall be filed by the plaintiff, or at the request of the plaintiff shall be transmitted by the agency directly to the clerk of the reviewing court and by him filed; provided, that when original documents are to be sent to the reviewing court they shall be transmitted by the agency directly, as aforesaid. The court may require or permit subsequent corrections of or additions to the record.

**536.140. Scope of judicial review — judgment — appeals.** — 1. The court shall hear the case without a jury and, except as otherwise provided in subsection 4 of this section, shall hear it upon the petition and record filed as aforesaid.

2. The inquiry may extend to a determination of whether the action of the agency

- (1) Is in violation of constitutional provisions;
- (2) Is in excess of the statutory authority or jurisdiction of the agency;
- (3) Is unsupported by competent and substantial evidence upon the whole record;
- (4) Is, for any other reason, unauthorized by law;
- (5) Is made upon unlawful procedure or without a fair trial;
- (6) Is arbitrary, capricious or unreasonable;
- (7) Involves an abuse of discretion.



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The scope of judicial review in all contested cases, whether or not subject to judicial review pursuant to sections 536.100 to 536.140, and in all cases in which judicial review of decisions of administrative officers or bodies, whether state or local, is now or may hereafter be provided by law, shall in all cases be at least as broad as the scope of judicial review provided for in this subsection; provided, however, that nothing herein contained shall in any way change or affect the provisions of sections 311.690\* and 311.700\*.

3. Whenever the action of the agency being reviewed does not involve the exercise by the agency of administrative discretion in the light of the facts, but involves only the application by the agency of the law to the facts, the court may upon application of any party conduct a de novo review of the agency decision.

4. Wherever under subsection 3 of this section or otherwise the court is entitled to weigh the evidence and determine the facts for itself, the court may hear and consider additional evidence if the court finds that such evidence in the exercise of reasonable diligence could not have been produced or was improperly excluded at the hearing before the agency. Wherever the court is not entitled to weigh the evidence and determine the facts for itself, if the court finds that there is competent and material evidence which, in the exercise of reasonable diligence, could not have been produced or was improperly excluded at the hearing before the agency, the court may remand the case to the agency with directions to reconsider the same in the light of such evidence. The court may in any case hear and consider evidence of alleged irregularities in procedure or of unfairness by the agency, not shown in the record.

5. The court shall render judgment affirming, reversing, or modifying the agency's order, and may order the reconsideration of the case in the light of the court's opinion and judgment, and may order the agency to take such further action as it may be proper to require; but the court shall not substitute its discretion for discretion legally vested in the agency, unless the court determines that the agency decision was arbitrary or capricious.

6. Appeals may be taken from the judgment of the court as in other civil cases.

**536.150. Review by injunction or original writ, when — scope. —** 1. When any administrative officer or body existing under the constitution or by statute or by municipal charter or ordinance shall have rendered a decision which is not subject to administrative review, determining the legal rights, duties or privileges of any person, including the denial or revocation of a license, and there is no other provision for judicial inquiry into or review of such decision, such decision may be reviewed by suit for injunction, certiorari, mandamus, prohibition or other appropriate action, and in any such review proceeding the court may determine the facts relevant to the question whether such person at the time of such decision was subject to such legal duty, or had such right, or was entitled to such privilege, and may hear such evidence on such question as may be properly adduced, and the court may determine whether such decision, in view of the facts as they appear to the court, is unconstitutional, unlawful, unreasonable, arbitrary, or capricious or involves an abuse of discretion; and the court shall render judgment accordingly,



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and may order the administrative officer or body to take such further action as it may be proper to require; but the court shall not substitute its discretion for discretion legally vested in such administrative officer or body, and in cases where the granting or withholding of a privilege is committed by law to the sole discretion of such administrative officer or body, such discretion lawfully exercised shall not be disturbed.

2. Nothing in this section shall apply to contested cases reviewable pursuant to sections 536.100 to 536.140.

3. Nothing in this section shall be construed to impair any power to take summary action lawfully vested in any such administrative officer or body, or to limit the jurisdiction of any court or the scope of any remedy available in the absence of this section.

**536.160. Refund of funds paid into court, when.** — In the event a reviewing court reverses a decision of a state agency, remands the matter to the agency for further proceedings and orders the payment into court of any increase in funds authorized by said decision, and thereafter, on remand, the state agency reaches the same result, reaffirms or ratifies its prior decision, then the entity which paid such funds into court shall be entitled to a refund of such funds, including all interest accrued thereon. This provision is enacted in part to clarify and specify the law in existence prior to August 28, 2001.



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### Court Rules

#### 56.01. General Provisions Governing Discovery

**(a) Discovery Methods.** Parties may obtain discovery by one or more of the following methods: depositions upon oral examination or written questions; written interrogatories; production of documents or things or permission to enter upon land or other property, for inspection and other purposes; physical and mental examinations; and requests for admission.

**(b) Scope of Discovery.** Unless otherwise limited by order of the court in accordance with these rules, the scope of discovery is as follows:

(1) *In General.* Parties may obtain discovery regarding any matter, not privileged, that is relevant to the subject matter involved in the pending action, whether it relates to the claim or defense of the party seeking discovery or to the claim or defense of any other party, including the existence, description, nature, custody, condition and location of any books, documents or other tangible things and the identity and location of persons having knowledge of any discoverable matter.

It is not ground for objection that the information sought will be inadmissible at the trial if the information sought appears reasonably calculated to lead to the discovery of admissible evidence.

The party seeking discovery shall bear the burden of establishing relevance.

(2) *Insurance Agreements.* A party may obtain discovery of the existence and contents, including production of the policy and declaration page, of any insurance agreement under which any person carrying on an insurance business may be liable to satisfy part or all of a judgment that may be entered in the action or to indemnify or reimburse for payments made to satisfy the judgment. Information concerning the insurance agreement is not by reason of disclosure admissible in evidence at trial. For purposes of this [Rule 56.01\(b\)\(2\)](#), an application for insurance shall not be treated as part of an insurance agreement.

(3) *Trial Preparation: Materials.* Subject to the provisions of [Rule 56.01\(b\)\(4\)](#), a party may obtain discovery of documents and tangible things otherwise discoverable under [Rule 56.01\(b\)\(1\)](#) and prepared in anticipation of litigation or for trial by or for another party or by or for that other party's representative, including an attorney, consultant, surety, indemnitor, insurer, or agent, only upon a showing that the party seeking discovery has substantial need of the materials in the preparation of the case and that the adverse party is unable without undue hardship to obtain the substantial equivalent of the materials by other means. In ordering discovery of such materials when the required showing has been made, the court shall protect against disclosure of the mental impressions, conclusions, opinions, or legal theories of an attorney or other representative of a party concerning the litigation.

A party may obtain without the required showing a statement concerning the action or its subject



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matter previously made by that party. For purposes of this paragraph, a statement previously made is: (a) a written statement signed or otherwise adopted or approved by the person making it, or (b) a stenographic, mechanical, electrical, audio, video, motion picture or other recording, or a transcription thereof, of the party or of a statement made by the party and contemporaneously recorded.

(4) **Trial Preparation: Experts.** Discovery of facts known and opinions held by experts, otherwise discoverable under the provisions of Rule 56.01(b)(1) and acquired or developed in anticipation of litigation or for trial, may be obtained only as follows:

(A) A party may through interrogatories require any other party to identify each person whom the other party expects to call as an expert witness at trial by providing such expert's name, address, occupation, place of employment and qualifications to give an opinion, or if such information is available on the expert's curriculum vitae, such curriculum vitae may be attached to the interrogatory answers as a full response to such interrogatory, and to state the general nature of the subject matter on which the expert is expected to testify, and the expert's hourly deposition fee.

(B) A party may discover by a deposition the facts and opinions to which the expert is expected to testify. Unless manifest injustice would result, the court shall require that the party seeking discovery from an expert pay the expert a reasonable hourly fee for the time such expert is deposed.

(5) **Trial Preparations: Non-retained Experts.** A party, through interrogatories, may require any other party to identify each non-retained expert witness, including a party, whom the other party expects to call at trial who may provide expert witness opinion testimony by providing the expert's name, address, and field of expertise. For the purpose of this Rule 56.01(b)(5), an expert witness is a witness qualified as an expert by knowledge, experience, training, or education giving testimony relative to scientific, technical or other specialized knowledge that will assist the trier of fact to understand the evidence. Discovery of the facts known and opinions held by such an expert shall be discoverable in the same manner as for lay witnesses.

(6) **Approved Interrogatories and Request for Production.** A circuit court by local court rule may promulgate 'approved' interrogatories and requests for production for use in specified types of litigation. Each such approved interrogatory and request for production submitted to a party shall be denominated as having been approved by reference to the local court rule and paragraph number containing the interrogatory or request for production.

**(c) Protective Orders.** Upon motion by a party or by the person from whom discovery is sought, and for good cause shown, the court may make any order which justice requires to protect a party or person from annoyance, embarrassment, oppression, or undue burden or expense, including one or more of the following:

(1) that the discovery not be had;



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- (2) that the discovery may be had only on specified terms and conditions, including a designation of the time or place;
- (3) that the discovery may be had only by a method of discovery other than that selected by the party seeking discovery;
- (4) that certain matters not be inquired into, or that the scope of the discovery be limited to certain matters;
- (5) that discovery be conducted with no one present except persons designated by the court;
- (6) that a deposition after being sealed be opened only by order of the court;
- (7) that a trade secret or other confidential research, development, or commercial information not be disclosed or be disclosed only in a designated way;
- (8) that the parties simultaneously file specified documents or information enclosed in sealed envelopes to be opened as directed by the court.

If a motion for a protective order is denied in whole or in part, the court may, on such terms and conditions as are just, order that any party or person provide or permit discovery. The provisions of [Rule 61.01](#) apply to the award of expenses incurred in relation to the motion.

**(d) Sequence and Timing of Discovery.** Unless the court upon motion, for the convenience of parties and witnesses and in the interests of justice, orders otherwise, methods of discovery may be used in any sequence and the fact that a party is conducting discovery, whether by deposition or otherwise, shall not operate to delay any other party's discovery.

**(e) Supplementation of Responses.** A party is under a duty seasonably to amend a prior response to an interrogatory, request for production, or request for admission if the party learns that the response is in some material respect incomplete or incorrect and if the additional or corrective information has not otherwise been made known to the other parties during the discovery process or in writing.

**(f) Stipulations Regarding Discovery Procedure.** Unless the court orders otherwise, the parties may by written stipulation (1) provide that depositions may be taken before any person at any time or place, upon any notice, and in any manner and when so taken may be used like other depositions, and (2) modify the procedures provided by these Rules for other methods of discovery. Any stipulation under subdivision (2) shall be filed.

### 57.01. Interrogatories to Parties



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**(a) Scope.** Any party may serve upon any other party written interrogatories. Interrogatories may relate to any matter that can be inquired into under [Rule 56.01](#). An interrogatory otherwise proper is not necessarily objectionable merely because an answer to the interrogatory involves an opinion or contention that relates to fact or the application of law to fact, but the court may order that such an interrogatory need not be answered until after designated discovery has been completed or until a pretrial conference or other later time.

**(b) Issuance.**

(1) Form. Interrogatories shall be in consecutively numbered paragraphs. The title shall identify the party to whom they are directed and state the number of the set of interrogatories directed to that party.

(2) When Interrogatories May be Served. Without leave of court, interrogatories may be served on:

- (A) A plaintiff after commencement of the action, and
- (B) Any other party with or after the party was served with process, entered an appearance, or filed a pleading.

(3) Service. Copies of the interrogatories shall be served on all parties not in default. The party issuing the interrogatories shall also provide each answering party an electronic copy, in a commonly used medium such as a diskette, CD-ROM or as an e-mail attachment, in a format that can be read by most commonly used word processing programs, such as Word for Windows or WordPerfect 5.x or higher. In addition to the information normally in a certificate of service, the certificate of service shall also state:

- (A) The name of each party who is to respond to the interrogatories;
- (B) The number of the set of interrogatories,
- (C) The format of the electronic copy and the medium used to transmit the electronic copy to the responding party.

At the time of service, a certificate of service, but not the interrogatories, shall be filed with the court as provided in [Rule 57.01\(d\)](#).

**(c) Response.** The interrogatories shall be answered by each party to whom they are directed. If they are directed to a public or private corporation, limited liability company, partnership, association or governmental agency, they shall be answered by an officer or agent. The party answering the interrogatories shall furnish such information as is available to the party.

(1) When the Response is Due. Responses shall be served within 30 days after the service of the interrogatories. A defendant, however, shall not be required to respond to interrogatories before the expiration of 45 days after the earlier of:

- (A) The date the defendant enters an appearance, or
- (B) The date the defendant is served with process.

The court may allow a shorter or longer time.



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(2) Form. The title of the response shall identify the responding party and the number of the set of interrogatories. The response to the interrogatories shall quote each interrogatory, including its original paragraph number, and immediately thereunder state the answer or all reasons for not completely answering the interrogatory, including privileges, the work product doctrine and objections.

(3) Objections and Privileges. If information is withheld because of an objection, then each reason for the objection shall be stated. If a privilege or the work product doctrine is asserted as a reason for withholding information, then without revealing the protected information, the objecting party shall state information that will permit others to assess the applicability of the privilege or work product doctrine.

(4) Option to Produce Business Records. If the answer to an interrogatory may be derived or ascertained from:

(A) The business records of the party upon whom the interrogatory has been served, or

(B) An examination, audit or inspection of such business records, or

(C) A compilation, abstract or summary based thereon,

and the burden of deriving or ascertaining the answer is substantially the same for the party serving the interrogatory as for the party served, it is a sufficient answer to such interrogatory to specify the records from which the answer may be derived or ascertained and to afford to the party serving the interrogatory reasonable opportunity to examine, audit or inspect such records and to make copies, compilations, abstracts or summaries.

(5) Signing. Answers shall be signed under oath by the person making them. Objections shall be signed by the attorney making them or by the self-represented party.

(6) Service. The party to whom the interrogatories were directed shall serve a signed original of the answers and objections, if any, on the party that issued the interrogatories and a copy on all parties not in default. The certificate of service shall state the name of the party who issued the interrogatories and the number of the set of interrogatories.

At the time of service, a certificate of service, but not the response, shall be filed with the court as provided in [Rule 57.01\(d\)](#).

**(d) Filing.** Interrogatories and answers under this Rule 57.01 shall not be filed with the court except upon court order or contemporaneously with a motion placing the interrogatories in issue. However, both when the interrogatories and answers are served, the party serving them shall file with the court a certificate of service.

The certificate shall show the caption of the case, the name of the party served, the date and





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manner of service, the designation of the document, e.g., first interrogatories or answers to second interrogatories, and the signature of the serving party or attorney. The answers bearing the original signature of the party answering the interrogatories shall be served on the party submitting the interrogatories, who shall be the custodian thereof until the entire case is finally disposed.

Copies of interrogatory answers may be used in all court proceedings to the same extent the original answers may be used.

**(e) Enforcement.** The party submitting the interrogatory may move for an order under [Rule 61.01\(b\)](#) with respect to any objection to or other failure to answer an interrogatory.

**(f) Use at Trial.** Interrogatory answers may be used to the extent permitted by the rules of evidence.

#### **57.02. Depositions Before Action or Pending Appeal**

##### **(a) Before Action.**

(1) *Petition.* A person who desires to perpetuate testimony of any person regarding any matter that may be cognizable in any court of Missouri may file a verified petition in the circuit court in the county of the residence of any expected adverse party. The petition shall be captioned in the name of the petitioner and shall show: (1) that the petitioner expects to be a party to an action cognizable in a court of Missouri but is presently unable to bring it or cause it to be brought, (2) the subject matter of the expected action and the petitioner's interest therein, (3) the facts desired to be established by the proposed testimony and the reasons for desiring to perpetuate it, (4) the names or a description of the persons expected to be adverse parties and their addresses so far as known, and (5) the names and addresses of the persons to be examined and the substance of the testimony that is expected to be elicited from each.

The petitioner shall ask for an order authorizing the taking of the depositions of the persons to be examined named in the petition, for the purpose of perpetuating their testimony.

(2) *Notice and Service.* The petitioner shall thereafter serve a notice upon each person named in the petition as an expected adverse party, together with a copy of the petition, stating that the petitioner will apply to the court, at a time and place named therein, for the order described in the petition. At least thirty days before the date of hearing, the notice shall be served either within or without the state in the manner provided for service of summons; but if such service cannot with due diligence be made upon any expected adverse party named in the petition, the court may make such order as is just for service by publication or otherwise and shall appoint, for persons not personally served with a summons in this state, an attorney who shall represent them and, in case they are not otherwise represented, shall cross-examine the deponent. If any expected adverse party is a minor or



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incompetent the provisions of [Rule 52.02](#) apply.

(3) *Order and Examination.* If the court is satisfied that the perpetuation of the testimony may prevent a failure or delay of justice, it shall make an order designating or describing the persons whose depositions may be taken and specifying the subject matter of the examination and whether the depositions shall be taken upon oral examination or written questions. The depositions may then be taken in accordance with these Rules; and the court may make orders of the kind provided for by Rules [58.01](#) and [60.01](#). For the purpose of applying these Rules to depositions for perpetuating testimony, each reference therein to the court in which the action is pending shall be considered as referring to the court in which the petition for such deposition was filed.

(4) *Use of Deposition.* If a deposition to perpetuate testimony is taken under these Rules, it may be used in any action involving the same subject matter subsequently brought in a court of Missouri, in accordance with the provisions of [Rule 57.07](#).

**(b) Pending Appeal.** If an appeal has been taken from a judgment of a circuit court or before the taking of an appeal if the time therefor has not expired, the court in which the judgment was rendered may allow the taking of the depositions of witnesses to perpetuate their testimony for use in the event of further proceedings in the circuit court. In such case, the party who desires to perpetuate the testimony may make a motion in the circuit court for leave to take the depositions, upon the same notice and service thereof as if the action were pending in that court. The motion shall show (1) the names and addresses of persons to be examined and the substance of the testimony expected to be elicited from each and (2) the reasons for perpetuating their testimony. If the court finds that the perpetuation of the testimony is proper to avoid a failure or delay of justice, it may make an order allowing the deposition to be taken and may make orders of the character provided for in [Rule 58.01](#) and [Rule 60.01](#), and thereupon the depositions may be taken and used in the same manner and under the same conditions as are prescribed in these rules for depositions taken in actions pending in that court.

**(c) Perpetuation by Action.** This Rule does not limit the power of a court to entertain an action to perpetuate testimony.

#### **57.03. Depositions Upon Oral Examination**

**(a) When Depositions May Be Taken.** After commencement of the action, any party may take the testimony of any person, including a party, by deposition upon oral examination. Leave of court, granted with or without notice, must be obtained only if the plaintiff seeks to take a deposition prior to the expiration of 30 days after service of the summons and petition upon any defendant, except that leave is not required if a defendant has served a notice of taking deposition or otherwise sought discovery. The attendance of witnesses may be compelled by subpoena as provided in [Rule 57.09](#). The attendance of a party is compelled by notice as provided in subdivision (b) of this Rule. The deposition of a person confined in prison may be



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taken only by leave of court on such terms as the court describes.

#### **(b) Notice of Examination: General Requirements; Special Notice; Production of Documents and Things; Deposition of Organization.**

- (1) A party desiring to take the deposition of any person upon oral examination shall give not less than seven days notice in writing to every other party to the action and to a non-party deponent.

The notice shall state the time and place for taking the deposition and the name and address of each person to be examined, if known. If the name is not known, a general description sufficient to identify the person or the particular class or group to which the person belongs shall be stated.

If a subpoena duces tecum is to be served on the person to be examined, the designation of the materials to be produced as set forth in the subpoena shall be attached to or included in the notice.

A party may attend a deposition by telephone.

- (2) The court may for cause shown enlarge or shorten the time for taking the deposition.
- (3) The notice to a party deponent may be accompanied by a request made in compliance with [Rule 58.01](#) for the production of documents and tangible things at the taking of the deposition. The procedure of [Rule 58.01](#) shall apply to the request.
- (4) A party may in the notice and in a subpoena name as the deponent a public or private corporation or a partnership or association or governmental agency and describe with reasonable particularity the matters on which examination is requested. In that event, the organization so named shall designate one or more officers, directors, or managing agents, or other persons who consent to testify on its behalf and may set forth, for each person designated, the matters on which the person will testify. A subpoena shall advise a nonparty organization of its duty to make such a designation. The persons so designated shall testify as to matters known or reasonably available to the organization. This Rule 57.03(b)(4) does not preclude taking a deposition by any other procedure authorized in these rules.

**(c) Non-stenographic Recording - Video Tape.** Depositions may be recorded by the use of video tape or similar methods. The recording of the deposition by video tape shall be in addition to a usual recording and transcription method unless the parties otherwise agree.

- (1) If the deposition is to be recorded by video tape, every notice or subpoena for the taking of the deposition shall state that it is to be videotaped and shall state the name, address and employer of the recording technician. If a party upon whom notice for the taking of a deposition has been served desires to have the testimony additionally recorded by other than stenographic means, that party shall serve



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notice on the opposing party and the witness that the proceedings are to be videotaped. Such notice must be served not less than three days prior to the date designated in the original notice for the taking of the depositions and shall state the name, address and employer of the recording technician.

(2) Where the deposition has been recorded only by video tape and if the witness and parties do not waive signature, a written transcription of the audio shall be prepared to be submitted to the witness for signature as provided in Rule 57.03(f).

(3) The witness being deposed shall be sworn as a witness on camera by an authorized person.

(4) More than one camera may be used, either in sequence or simultaneously.

(5) The attorney for the party requesting the video taping of the deposition shall take custody of and be responsible for the safeguarding of the video tape and shall, upon request, permit the viewing thereof by the opposing party and if requested, shall provide a copy of the video tape at the cost of the requesting party.

(6) Unless otherwise stipulated to by the parties, the expense of videotaping is to be borne by the party utilizing it and shall not be taxed as costs.

**(d) Record of Examination; Oath; Objections.** The officer before whom the deposition is to be taken shall put the witness on oath or affirmation and shall personally, or by someone acting under the officer's direction and in the officer's presence, record the testimony of the witness. The testimony shall be taken stenographically or recorded by any other means ordered in accordance with Rule 57.03(c). If requested by one of the parties, the testimony shall be transcribed.

All objections made at the time of the examination to the qualifications of the officer taking the deposition, to the manner of taking it, to the evidence presented, to the conduct of any party, or any other objection to the proceedings shall be noted by the officer upon the deposition. Evidence objected to shall be taken subject to the objections. In lieu of participating in the oral examination, parties may serve written questions in a sealed envelope on the party taking the deposition, and that party shall transmit them to the officer before whom the deposition is to be taken, who shall propound them to the witness, and the questions and answers thereto shall be recorded.

**(e) Motion to Terminate or Limit Examination.** At any time during the taking of the deposition, on motion of a party or of the deponent and upon a showing that the examination is being conducted in bad faith or in such manner as unreasonably to annoy, embarrass, or oppress the deponent or party, the court in which the action is pending or a court having general jurisdiction in the place where the deposition is being taken may order the officer conducting the examination to cease forthwith from taking the deposition, or may limit the scope and manner of the taking of the deposition as provided in [Rule 56.01\(c\)](#). If the order made terminates the examination, it shall be resumed thereafter only upon the order of the court in which the action is



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pending. Upon demand of the objecting party or deponent, the taking of the deposition shall be suspended for the time necessary to make a motion for an order. The provisions of [Rule 61.01\(g\)](#) apply to the award of expenses incurred in relation to the motion.

**(f) Submission to Witness; Changes; Signing.** When the testimony is fully transcribed, the officer shall make the deposition available to the witness for examination, reading and signing, unless such examination, reading, and signing are waived by the witness or by the parties. Any changes in form or substance that the witness desires to make shall be entered upon an errata sheet provided to the witness with a statement of the reasons given for making such changes. The answers or responses as originally given, together with the changes made and reasons given therefor, shall be considered as a part of the deposition. The deposition shall then be signed by the witness before a notary public unless the witness is ill, cannot be found, is dead, or refuses to sign. If the deposition is not signed by the time of trial, it may be used as if signed, unless, on a motion to suppress, the court holds that the reasons given for the refusal to sign requires rejection of the deposition in whole or in part.

(Amended June 20, 2014, eff. Jan. 1, 2015)

**(g) Certification, Delivery, and Filing; Exhibits; Copies.**

(1) *Certification and Delivery.* The officer shall certify on the deposition that the witness was duly sworn by the officer and that the deposition is a true record of the testimony given by the witness. Upon payment of reasonable charges therefor, the officer shall deliver the deposition to the party who requested that the testimony be transcribed.

(2) *Filing*

(a) By the Officer. Upon delivery of a deposition, the officer shall file with the court a certificate showing the caption of the case, the name of the deponent, the date the deposition was taken, the name and address of the person having custody of the original deposition, and whether the charges have been paid. The officer shall not file a copy of the deposition with the court except upon court order.

(b) By a Party. A party shall not file a deposition with the court except upon specific court order or contemporaneously with a motion placing the deposition or a part thereof in issue. The court may enact local court rules requiring a party who intends to use a deposition at a hearing or trial to file that deposition with the court on or prior to the date of the hearing or trial.

(c) Return of Deposition. At the conclusion of the hearing or trial the deposition that has been filed or delivered to the court shall be



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returned to the party that filed or delivered the deposition.

(d) **Retention of Deposition.** The original deposition shall be maintained until the case is finally disposed.

(3) **Exhibits.** Documents and things produced for inspection during the examination of the witness shall, upon the request of a party, be marked for identification and annexed to and returned with the deposition and may be inspected and copied by any party, except that (A) the person producing the materials may substitute copies to be marked for identification if the person affords to all parties fair opportunity to verify the copies by comparison with the originals and (B) if the person producing the materials requests their return, the officer shall mark them, give each party an opportunity to inspect and copy them, and return them to the person producing them, and the materials may then be used in the same manner as if annexed to and returned with the deposition. Any party may move for an order that the original be annexed to and returned with the deposition to the court pending final disposition of the civil action.

(4) **Copies.** Upon request and payment of reasonable charges therefor, the officer shall furnish a copy of the deposition to any party or to the deponent.

#### **(h) Failure to Attend or to Serve Subpoena; Expenses.**

(1) If the party giving the notice of the taking of a deposition fails to attend and proceed therewith and another party attends in person or by attorney pursuant to the notice, the court may order the party giving notice to pay to such other party the reasonable expenses incurred by that other party and that other party's attorney in attending, including reasonable attorney's fees.

(2) If a witness fails to appear for a deposition and the party giving the notice of the taking of the deposition has not complied with these rules to compel the attendance of the witness, the court may order the party giving the notice to pay to any party attending in person or by attorney the reasonable expenses incurred by that other party and that other party's attorney in attending, including reasonable attorney's fees.

#### **57.04. Depositions Upon Written Questions**

**(a) Serving Questions; Notice.** After commencement of the action, any party may take the testimony of any person, including a party, by deposition upon written questions. The attendance of witnesses may be compelled by the use of subpoena as provided in [Rule 57.09](#). The deposition of a person confined in prison may be taken only by leave of court on such terms as the court prescribes.

A party desiring to take a deposition upon written questions shall serve them upon every other party with a notice stating: (1) the name and address of the person who is to answer them, if





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known, and if the name is not known, a general description sufficient to identify the person or the particular class or group to which the person belongs and (2) the name or descriptive title and address of the officer before whom the deposition is to be taken. A deposition upon written questions may be taken of a public or private corporation or a partnership or association or governmental agency in accordance with the provisions of [Rule 57.03\(b\)\(4\)](#).

Within thirty days after the notice and written questions are served, a party may serve cross questions upon all other parties. Within ten days after being served with cross questions, a party may serve redirect questions upon all other parties. Within ten days after being served with redirect questions, a party may serve recross questions upon all other parties. The court may for cause shown enlarge or shorten the time.

**(b) Officer to Take Responses and Prepare Record.** A copy of the notice and copies of all questions served shall be delivered by the party taking the deposition to the officer designated in the notice, who shall proceed promptly, in the manner provided by [Rule 57.03\(d\)](#), [\(f\)](#), and [\(g\)](#), to take the testimony of the witness in response to the questions and to prepare, certify, and deliver the deposition, attaching thereto the copy of the notice and the questions.

**(c) Notice of Delivery.** When the deposition is delivered, the party taking it promptly shall give notice thereof to all other parties.

#### **57.05. Persons Before Whom Depositions May Be Taken**

**(a) In Missouri.** Within the State of Missouri, depositions shall be taken before an officer authorized by the laws of this State to administer oaths, or before a person appointed by the court in which the action is pending. A person so appointed has power to administer oaths and take testimony.

**(b) Elsewhere in the United States.** Within other States of the United States or within a territory or insular possession subject to the dominion of the United States, depositions shall be taken before a person authorized to administer oaths by the laws of the United States or of the place where the examination is held, or before a person appointed by the court in which the action is pending. A person so appointed has power to administer oaths and take testimony.

**(c) In Foreign Countries.** In a foreign country, a deposition may be taken:

- (1) On notice before a person authorized to administer oaths in the place in which the examination is held, either by the law thereof or by the law of the United States, or
- (2) Before a person commissioned by the court, and a person so commissioned has the power by virtue of his commission to administer any necessary oath and take testimony, or
- (3) Pursuant to a letter rogatory. A commission or a letter rogatory shall be issued



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on application and notice and on terms that are just and appropriate. It is not requisite to the issuance of a commission or a letter rogatory that the taking of the deposition in any other manner is impracticable or inconvenient; and both a commission and a letter rogatory may be issued in proper cases. A notice or commission may designate the person before whom the deposition is to be taken either by name or descriptive title. A letter rogatory may be addressed 'To the Appropriate Authority in [here name the country]'. Evidence obtained in response to a letter rogatory need not be excluded merely for the reason that it is not a verbatim transcript or that the testimony was not taken under oath or for any similar departure from the requirements for depositions taken within the United States under these Rules.

**(d) Disqualification for Interest.** No deposition shall be taken before a person who is a relative or employee or attorney or counsel of any of the parties, or is a relative or employee of such attorney or counsel, or is financially interested in the action.

#### **57.07. Use of Depositions in Court Proceedings**

**(a) Use of Depositions.** Any part of a deposition that is admissible under the rules of evidence applied as though the deponent were testifying in court may be used against any party who was present or represented at the taking of the deposition or who had proper notice thereof. Depositions may be used in court for any purpose.

#### **(b) Objections - Effect of Errors and Irregularities in Depositions.**

- (1) *Regarding the Notice.* An objection to an irregularity in a deposition notice shall be made promptly by written notice served on all parties before the deposition starts; otherwise, the objection is waived.
- (2) *Regarding the Officer.* An objection to a deposition because the officer before whom it is to be taken is not qualified shall be made before the deposition begins or as soon thereafter as the officer's lack of qualification becomes known or could have been discovered with reasonable diligence; otherwise, the objection is waived.
- (3) *Regarding the Competency of the Deponent.* An objection to a deponent's competency is not waived by failing to make an objection before or during the deposition unless the basis for the objection could have been removed if the objection had been presented before or during the deposition.
- (4) *Regarding Conduct During the Deposition.* An objection to the competency, relevancy, or materiality of testimony is not waived by failure to object before or during the deposition. Errors and irregularities in the manner of taking the deposition, in the form of the questions or answers, in the oath or affirmation, or in the conduct of parties and errors of any kind that might be cured if promptly





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presented are waived unless seasonable objection thereto is made during the deposition. Objections as to the form of written questions submitted under [Rule 57.04](#) are waived unless served in writing upon the party propounding them within the time allowed for serving the succeeding cross or other questions and within ten days after service of the last questions authorized.

(5) *Regarding Irregularities in Transcription.* Errors and irregularities in the manner in which the testimony is transcribed or the deposition is prepared, signed, certified, sealed, endorsed, transmitted, filed, or otherwise dealt with by the officer under [Rule 57.03](#) and [Rule 57.04](#) are waived unless a motion to suppress the deposition or some party thereof is made with reasonable promptness after such defect is, or with due diligence might have been discovered.

#### **57.09. Subpoena for Taking Deposition**

**(a) For Attendance of Witnesses; Form; Issuance.** Every subpoena for a deposition shall:

- (1) Be issued by the officer or person before whom depositions may be taken as designated in [Rule 57.05](#) or [Rule 57.06](#) or by the clerk of the court in which the civil action is pending;
- (2) State the name of the court and the style of the civil action;
- (3) State the name, address and telephone number of all attorneys of record and self-represented parties; and

- (4) Command each person to whom it is directed to attend and give testimony at a time and place therein specified.

**(b) For Production of Documents and Things.** In conjunction with a deposition properly noticed under [Rule 57.03](#), a subpoena may also command the person to whom it is directed to produce the books, papers, documents, or tangible things designated therein.

The court may:

- (1) Quash or modify the subpoena if it is unreasonable or oppressive, or
- (2) Require the party who issued and served the subpoena to advance the reasonable cost of producing the books, papers, documents, or tangible things.

**(c) Subpoena to a Non-Party.** A subpoena to a non-party pursuant to Rule 57.09 for the production of documents and things shall be served not fewer than 10 days before the time specified for compliance. The party serving a subpoena on a non-party shall provide a copy of the subpoena to every party as if it were a pleading. A party objecting to the subpoena may seek a protective order under [Rule 56.01\(c\)](#).

A party or attorney responsible for the issuance and service of a subpoena shall take reasonable



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steps to avoid imposing undue burden or expense on a non-party subject to the subpoena.

With the agreement of all parties, the non-party may be excused from appearance at the deposition and may produce the subpoenaed items to the party responsible for issuance and service of the subpoena, who shall then offer to all other parties the opportunity to inspect or copy the subpoenaed items. The party responsible for issuance and service of the subpoena is responsible for obtaining the agreement of all parties and advising the non-party in writing of the agreement, with a copy to all attorneys of record and self-represented parties. Absent such an agreement, the subpoenaed items shall only be produced at the deposition.

Upon request by any party, the non-party shall also produce with the subpoenaed items a business records affidavit of the custodian of records.

A non-party commanded to produce and permit inspection and copying may serve the party who issued and served the subpoena with a written objection to inspection and copying of any or all of the designated items. The objection shall state specific reasons why the subpoena should be quashed or modified.

The objection shall be served on all parties to the action within 10 days after service of the subpoena or before the time specified for compliance, whichever is earlier.

If a timely and specific objection is made, the party who issued and served the subpoena shall not be entitled to inspect or copy the subpoenaed items except pursuant to an order of the court.

Upon notice to the non-party commanded to produce, the party who issued and served the subpoena may move at any time for an order to compel production.

**(d) Service.** A subpoena may be served by:

- (1) The sheriff or a sheriff's deputy, or
- (2) Any other person who is not a party and is not less than 18 years of age.

Service of a subpoena upon a person named therein shall be made by delivering a copy thereof to such person and by tendering to that person the fees and mileage the witness would have been entitled to receive for attending court pursuant to subpoena.

**(e) Authorization to Issue Subpoena.** Proof of service of a notice to take a deposition as provided in Rules [57.03](#) and [57.04](#) is sufficient to authorize the issuance of a subpoena for taking a deposition.

**(f) Contempt.** Any person who without adequate excuse fails to obey a subpoena served upon the person may be held in contempt of the court in which the civil action is pending.



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#### 57.10. Taxing and Certifying Costs

**(a) Costs - How Taxed.** The costs of taking depositions shall be taxed in favor of the party paying the same and taxed as other costs in the civil action.

**(b) Costs - How Certified and Taxed.** The costs shall be certified by the person before whom the deposition is taken in the amount provided by law.

#### 58.01. PRODUCTION OF DOCUMENTS AND THINGS AND ENTRY UPON LAND FOR INSPECTION AND OTHER PURPOSES

**(a) Scope.** Any party may serve on any other party a request to:

- (1) Produce and permit the party making the request, or someone acting on the requesting party's behalf, to inspect and copy any designated documents (including writings, drawings, graphs, charts, photographs, phonograph records, electronic records, and other data compilations from which information can be obtained, translated, if necessary, by the requesting party through detection devices into reasonably usable form) or to inspect and copy, test, or sample any tangible things that constitute or contain matters within the scope of [Rule 56.01\(b\)](#) and that are in the possession, custody or control of the party upon whom the request is served; or
- (2) Permit entry upon designated land or other property in the possession or control of the party upon whom the request is served for the purpose of inspection and measuring, surveying, and photographing, testing, or sampling the property or any designated object or operation thereon, within the scope of [Rule 56.01\(b\)](#).

This Rule 58.01 does not preclude an independent action against a person not a party for production of documents and things and permission to enter upon land.

**(b) Issuance.**

- (1) Form. In consecutively numbered paragraphs the request shall set forth the items to be inspected, either by individual item or by category, and describe each item and category with reasonable particularity. The request shall specify a reasonable time, place and manner of making the inspection and performing the related acts. The title shall identify the party to whom the requests are directed and state the number of the set of requests directed to that party.
- (2) When Requests May be Served. Without leave of court, requests may be served on:
  - (A) A plaintiff after commencement of the action, and
  - (B) Any other party with or after the party was served with process, entered an appearance, or filed a pleading.
- (3) Service. Copies of the requests shall be served on all parties not in default. The party issuing the requests shall also provide each responding party an



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electronic copy in a commonly used medium, such as a diskette, CD-ROM or as an e-mail attachment, in a format that can be read by most commonly used word processing programs, such as Word for Windows or WordPerfect 5.x or higher. In addition to the information normally in a certificate of service, the certificate of service shall also state the:

- (A) Name of each party who is to respond to the requests;
- (B) Number of the set of requests,
- (C) Format of the electronic copy and the medium used to transmit the electronic copy to the responding party.

At the time of service, a certificate of service, but not the requests, shall be filed with the court as provided in [Rule 58.01\(d\)](#).

**(c) Response.** The requests shall be answered by each party to whom they are directed.

(1) When Response is Due. Responses shall be served within 30 days after the service of the request. A defendant, however, shall not be required to respond to the request before the expiration of 45 days after the earlier of:

- (A) The date the defendant enters an appearance, or
- (B) The date the defendant is served with process.

The court may allow a shorter or longer time.

(2) Form. The title of the response shall identify the responding party and the number of the set of the requests. The response shall quote each request, including its original paragraph number, and immediately thereunder state that the requested items will be produced or the inspection and related activities will be permitted as requested, unless the request is objected to, in which event each reason for objection shall be stated in detail.

(3) Objections and Privileges. If information is withheld because of an objection, then each reason for the objection shall be stated. If a privilege or the work product doctrine is asserted as a reason for the objection, then without revealing the protected information, the objecting party shall state information that will permit others to assess the applicability of the privilege or work product doctrine.

(4) Method of Production. A party who produces documents for inspection shall produce them as they are kept in the usual course of business or shall organize and label them to correspond with the categories in the request.

(5) Signing. The response shall be signed by the attorney or by the party if the party is not represented by an attorney.

(6) Service. The party to whom the requests were directed shall serve a signed original of the response and objections, if any, on the party that issued the requests and a copy upon all parties not in default. The certificate of service shall state the name of the party who issued the requests and the number of the set of requests.

At the time of service, a certificate of service, but not the response, shall be filed



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with the court as provided in [Rule 58.01\(d\)](#).

**(d) Filing.** The request and responses thereto shall not be filed with the court except upon court order or contemporaneously with a motion placing the request in issue. However, both when the request and responses are served, the party serving them shall file with the court a certificate of service. The certificate shall show the caption of the case, the name of the party served, the date and manner of service, and the signature of the serving party or attorney. Each party filing a certificate shall maintain a copy of the document that is the subject of the certificate until the case is finally disposed.

**(e) Enforcement.** The party submitting the request may move for an order under Rule [61.01\(d\)](#) with respect to any objection or other failure to respond to the request or any part thereof or any failure to permit inspection as requested.

### **58.02 SUBPOENA TO NON-PARTY FOR PRODUCTION OF DOCUMENTS AND THINGS**

**(a) Scope.** A party may serve a subpoena on a non-party to:

- (1) Produce and permit inspection and copying of any designated documents, or
- (2) Permit inspection, copying testing, or sampling of any tangible things that constitute or contain matters within the scope of Rule [56.01\(b\)](#) and that are in the possession, custody or control of the non-party.
- (3) Every such subpoena for document production and things shall:
  - (A) Be issued by the clerk of the court in which the civil action is pending;
  - (B) State the name of the court and they style of the civil action;
  - (C) State the name, address, and telephone number of all attorneys of record and self-represented parties.

**(b) Time.** A subpoena to a non-party shall be served not fewer than 10 days before the time specified for compliance.

**(c) Notice to Parties.** The party serving a subpoena on a non-party pursuant to Rule 58.02(a) shall provide a copy of the subpoena to every party as if it were a pleading. A party objecting to the subpoena may seek a protective order under Rule [56.01\(c\)](#).

**(d) Response.** With the agreement of all parties, the non-party may be excused from appearance at the location specified for document production and may produce the subpoenaed items to the party responsible for issuance and service of the subpoena, who shall then offer to all other parties the opportunity to inspect or copy the subpoenaed items. The party responsible for issuance and service of the subpoena is responsible for obtaining the agreement of all parties and advising the non-party in writing of the agreement, with a copy to all attorneys of record and self-represented parties. Absent such an agreement, the subpoenaed items shall only be produced



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at the place, date and time specified by the subpoena for all parties to inspect or copy.

Upon request by any party, the non-party shall also produce with the subpoenaed items a business records affidavit of the custodian of records.

#### **(e) Protection of Non-Party.**

(1) A party or attorney responsible for the issuance and service of a subpoena shall take reasonable steps to avoid imposing undue burden or expense on a non-party subject to the subpoena.

(2) A non-party commanded to produce and permit inspection and copying may serve the party who issued and served the subpoena with a written objection to inspection and copying of any or all of the designated items. The objection shall state specific reasons why the subpoena should be quashed or modified. The objection shall be served on all parties to the action within 10 days after service of the subpoena or before the time specified for compliance, whichever is earlier.

(3) If a timely and specific objection is made, the party who issued and served the subpoena shall not be entitled to inspect or copy the subpoenaed items except pursuant to an order of the court.

**(f) Contempt.** Any person who without adequate excuse fails to obey a subpoena served upon the person may be held in contempt of the court in which the civil action is pending.

#### **59.01. Request for and Effect of Admissions**

**(a) Scope.** After commencement of an action, a party may serve upon any other party a written request for the admission, for purposes of the pending action only, of the truth of any matters within the scope of [Rule 56.01\(b\)](#) set forth in the request that relate to statements or opinions of fact or of the application of law to fact, including the genuineness of any documents described in the request.

A failure to timely respond to requests for admissions in compliance with this Rule 59.01 shall result in each matter being admitted.

The request for admissions shall have included at the beginning of said request the following language in all capital letters, boldface type, and a character size that is as large as the largest character size of any other material in the request:

**"A FAILURE TO TIMELY RESPOND TO REQUESTS FOR ADMISSIONS IN COMPLIANCE WITH RULE 59.01 SHALL RESULT IN EACH MATTER BEING ADMITTED BY YOU AND NOT SUBJECT TO FURTHER DISPUTE."**



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**(b) Effect of Admission.** Any matter admitted under this Rule 59.01 is conclusively established unless the court on motion permits withdrawal or amendment of the admission.

Subject to the provisions of [Rule 62.01](#) governing amendment of a pre-trial order, the court may permit withdrawal or amendment when the presentation of the merits of the action will be subserved thereby and the party who obtained the admission fails to satisfy the court that withdrawal or amendment will prejudice the party in maintaining the action or defense on the merits.

Any admission made by a party under this Rule 59.01 is for the purpose of the pending action only and is not an admission by the party for any other purpose nor may it be used against the party in any other proceeding.

**(c) Issuance.**

(1) Form. In consecutively numbered paragraphs, the request shall set forth each matter for which an admission is requested. Copies of documents about which admissions are requested shall be served with the request unless copies have already been furnished. The title shall identify the party to whom the request for admissions are directed and state the number of the set of requests directed to that party.

(2) When Requests May be Served. Without leave of court, requests may be served on:

- (A) A plaintiff after commencement of the action,
- (B) A defendant or respondent upon the expiration of 30 days after the first event of the defendant entering an appearance or being served with process, and
- (C) Any other party with or after the party was served with process, entered an appearance, or filed a pleading.

(3) Service. Copies of the requests shall be served on all parties not in default. The party issuing the requests shall also provide each responding party an electronic copy in a commonly used medium, such as a diskette, CD-ROM or as an e-mail attachment, in a format that can be read by most commonly used word processing programs, such as Word for Windows or WordPerfect 5.x or higher. In addition to the information normally in a certificate of service, the certificate of service shall also state the:

- (A) Name of each party who is to respond to the requests;
- (B) Number of the set of requests,
- (C) Format of the electronic copy and the medium used to transmit the electronic copy to the responding party.

At the time of service, a certificate of service, but not the requests, shall be filed with the court as provided in [Rule 59.01\(d\)](#).





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**(d) Response.** The requests shall be answered by each party to whom they are directed.

(1) When Response is Due. Responses shall be served within 30 days after the service of the requests for admissions. A defendant or respondent, however, shall not be required to respond to requests for admissions before the expiration of 60 days after the earlier of the defendant:

- (A) Entering an appearance, or
- (B) Being served with process.

The court may allow a shorter or longer time.

(2) Form. The title of the response shall identify the responding party and the number of the set of the requests for admissions. The response shall quote each request, including its original paragraph number, and immediately thereunder specifically:

- (A) Admit the matter; or
- (B) Deny the matter; or
- (C) Object to the matter and state each reason for the objection; or
- (D) Set forth in detail the reasons why the responding party cannot truthfully admit or deny the matter.

A denial shall fairly meet the substance of the requested admission.

When good faith requires that a party qualify an answer or deny only a part of the matter of which an admission is requested, the party shall specify so much of it as true and qualify or deny the remainder.

A responding party may give lack of information or knowledge as a reason for failure to admit or deny if such party states that the party has made reasonable inquiry and the information known or readily obtainable by the party is insufficient to enable the party to admit or deny.

A party who considers that a matter of which an admission has been requested presents a genuine issue for trial may not, on that ground alone, object to the request; such party may deny the matter, subject to the provisions of [Rule 61.01\(c\)](#), or set forth reasons why the party cannot admit or deny it.

(3) Objections and Privileges. If an objection is asserted, then each reason for the objection shall be stated. If a failure to admit or deny a request is based on a privilege or the work product doctrine, then without revealing the protected information, the objecting party shall state information that will permit others to assess the applicability of the privilege or work product doctrine.

(4) Signing. The response shall be signed by the party or the party's attorney.

(5) Service. The party to whom the requests were directed shall serve a signed original of the response and objections, if any, on the party that issued the requests and a copy upon all parties not in default. The certificate of service shall





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state the name of the party who issued the requests and the number of the set of requests.

At the time of service, a certificate of service, but not the response, shall be filed with the court as provided in [Rule 59.01\(d\)](#).

**(e) Filing Request and Responses.** The request and response thereto shall not be filed with the court except upon court order or contemporaneously with a motion placing the request in issue. However, both when the request and the response are served the party serving them shall file with the court a certificate of service. Each party filing a certificate shall maintain a copy of the document that is the subject of the certificate until the case is finally disposed.

**(f) Enforcement.** The party who has requested the admissions may move to have determined the sufficiency of the answers or objections. Unless the court determines that an objection is proper, it shall order that an answer be served. If the court determines that an answer does not comply with the requirements of this Rule 59.01, it may order either that:

- (1) The matter is admitted, or
- (2) An amended answer be served.

The provisions of [Rule 61.01\(c\)](#) apply to the award of expenses incurred in relation to the motion.



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**Sample Commercial Order**

**STATE TAX COMMISSION OF MISSOURI**

COMPANY	)	Appeal No.
	)	Parcel/locator No.
Complainant,	)	
	)	
v.	)	
	)	
ASSESSOR,	)	
MISSOURI,	)	
	)	
Respondent.	)	

**ORDER ON FILING OF COMPLAINT, ASSIGNING HEARING OFFICER,  
REQUIRING GOOD FAITH MEETING, AND  
SETTING DISCOVERY AND HEARING SCHEDULE**

The State Tax Commission of Missouri has received a Complaint for Review of Assessment for the above referenced appeal. An appeal number has been assigned. Parties are requested to include the appeal number and parcel/locator number on any filings or communications.

Hearing Officer \_\_\_\_\_ has been assigned to the appeal. The State Tax Commission will send notification to the Collector so that any taxes paid will be impounded pending disposition of the appeal.

The Commission sets the following schedule and procedure:

1. **Good Faith Meeting.** The parties are required to meet in person or by telephone, in good faith, no later than \_\_\_\_\_, to attempt to resolve the appeals. It is presumed that **both Complainant's Counsel and Counsel for Respondent** will be in possession of facts and/or documents sufficient to allow effective discussion of the parties and to identify the issues in the appeals, to simplify the issues, and to discuss all other matters that may aid in the disposition of the case.

2. **Disclosures and Exchange of Exhibits to be Used in Appeals (Read Carefully).** If there is no resolution of all of the appeals at the Good Faith Meeting, the parties should adhere to the following schedule:

DISCOVERY AND EXCHANGE SCHEDULE	
	Date Due
Good Faith Meeting	
Complainant's Written Certification to Prosecute Appeal	



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Initial Disclosures by Both Parties	
Simultaneous Filing and Exchange of Exhibits and Written Direct Testimony and Expert Disclosures	
Objections and Rebuttal Evidence	
Responses to Objections and Surrebuttal Evidence	
Evidentiary Hearing at X	

### **DISCOVERY – DISCLOSURES**

1. **Initial Disclosures.** Except as otherwise ordered, a party must, without awaiting a discovery request, provide to the other parties:
  - (i) the name and, if known, the address and telephone number of each individual likely to have discoverable information—along with the subjects of that information—that the disclosing party may use to support its claims or defenses;
  - (ii) a copy of all documents, electronically stored information, and tangible things that the disclosing party has in its possession, custody, or control and may use to support its claims or defenses.
2. **Time for Initial Disclosures.** A party must make the initial disclosures no later than the due date provided by the schedule.
3. **Disclosure of Expert Testimony.** In addition to the disclosures above, a party must disclose to the other parties the identity of any witness the party may use at Evidentiary Hearing to present evidence as an expert witness and any report that may be presented as evidence at Evidentiary Hearing.
4. **Time for Expert Disclosures.** A party must make the expert disclosures **within thirty (30) days of an expert report being generated** by any witness the party may use at Evidentiary Hearing to present evidence as an expert witness **or no later than the date in the schedule, whichever occurs first.**
5. **Other Discovery.** In addition to the foregoing, the parties are free to participate in any additional discovery allowable under the Missouri Rules of Civil Procedure.

### **DISCOVERY – EXHIBITS AND WRITTEN DIRECT TESTIMONY**

#### **Exchange Procedure**

1. **Exhibits.** Each party shall file with the Commission the original of all exhibits to be used in their case in chief and serve a copy upon opposing counsel. Complainant's exhibits shall be marked with letters beginning with the letter A, with the appeal number. Respondent's exhibits shall be marked with numbers beginning with the number 1, with the appeal number.

Exhibits filed with and retained by the Commission should be no larger than 8½ by 11 inches, (*standard appraisal forms on 8½ by 14 inch pages are permitted*) although for purposes of demonstration at the hearing, the parties may use larger copies of the submitted exhibits. Exhibits which consist of photographs shall be affixed to or copied on 8½ by 11 inch paper, and each photograph shall be identified in a brief statement or phrase on the face of the exhibit. More than one photograph may be placed on one page, if space so permits to identify each photograph.
2. **Written Direct Testimony.** Each party shall file with the Commission the original



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## STATE TAX COMMISSION OF MISSOURI ASSESSOR MANUAL

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of written direct testimony of each witness expected to be called for the party's case in chief and serve a copy upon opposing counsel. Written direct testimony shall be in a question and answer form with each question numbered sequentially, typed on 8½ by 11 inch paper, with pages numbered. Written direct testimony must be as complete and accurate as if it were oral testimony.

3. Objections and Rebuttal Exhibits. Objections to opposing party's introduction of exhibits and written direct testimony and rebuttal exhibits shall be filed with the Commission. A copy of said objections and/or exhibits shall be served upon opposing counsel.

4. Responses to Objections and Surrebuttal Exhibits. Responses to objections and surrebuttal exhibits shall be filed with the Commission. A copy of said responses to objections and/or surrebuttal exhibits shall be served upon opposing counsel.

5. Addresses for Filing and Serving Exhibits:

A. Exhibits filed with the Commission shall be mailed to: *Missouri State Tax Commission, Legal Section, 301 W. High Street, Room 840, P.O. Box 146, Jefferson City, MO 65102-0146*

B. The parties may serve their filings to the other party at the mailing address of record.

C. The parties may serve their filings to the Commission and to the other party by use of electronic mail (email).

6. Sanctions. Upon finding that a party has willfully failed to comply with this order, including, but not limited to failing to serve a copy of documents upon opposing party/counsel or to timely supplement those documents, sanctions may be imposed which may include exclusion of the offending party's evidence or dismissal of the appeal. Rule 61.01; Section 138.431 RSMo; Section 536.075 RSMo.

7. Duty to Timely Supplement. Each party shall supplement any and all discovery and disclosures in a timely fashion, i.e., as soon as the party becomes aware of the additional evidence/exhibits. Waiting to bring additional and new evidence/exhibits on or about the date of hearing will not be looked upon favorably.

8. Motions for Continuance. Parties are expected to proceed in an expeditious manner to comply with the deadlines set herein. Motions for continuance are discouraged and will not be looked upon favorably. **The fact parties are engaged in settlement negotiations is not good cause for continuance of the discovery schedule.** Parties are in no way prevented from pursuing settlement while conducting discovery. If a motion for continuance must be filed, it is to be filed not less than five days before the date specified for the event which stands to be affected by the motion, **not including intermediate Saturdays, Sundays and legal holidays.** Rule 61.01.

SO ORDERED x

STATE TAX COMMISSION OF MISSOURI

Hearing Officer



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### Sample Residential Order – Prehearing Conference STATE TAX COMMISSION OF MISSOURI

TAXPAYER	)	Appeal No.
	)	Parcel/locator No.
Complainant,	)	
	)	
v.	)	
	)	
ASSESSOR,	)	
MISSOURI,	)	
	)	
Respondent.	)	

### **ORDER ON FILING OF COMPLAINT, ASSIGNING HEARING OFFICER, AND REQUIRING PREHEARING CONFERENCE**

The State Tax Commission of Missouri has received a Complaint for Review of Assessment. An appeal number has been assigned. Parties are requested to include the appeal number and parcel/locator number on any filings or communications.

Hearing Officer x has been assigned to the appeal. The State Tax Commission will send notification to the Collector so that any taxes paid will be impounded pending disposition of the appeals.

The Commission sets the following schedule and procedure:

**1. Prehearing Conference. Before an Evidentiary Hearing will be scheduled in these appeals, the parties are required to meet in person, in good faith, at a Prehearing Conference with the Hearing Officer on X., at the X.** At the Prehearing Conference, **BOTH** of the parties shall be prepared to discuss the simplification of the issues and all other matters that may aid in the disposition of the cases. **BOTH** parties should present and exchange information and documentation on the issue of fair market value of the properties during the Prehearing Conference. If the parties resolve the appeals, no additional proceedings will be necessary. If the parties fail to resolve the appeals, the Hearing Officer will discuss the next steps in the process. However, the Hearing Officer will *not* be hearing testimony or taking evidence of value during the meeting with the parties. The Hearing Officer will *not* be providing legal advice to either party.

**Failure to appear at the Prehearing Conference may result in dismissal of the appeal(s) for failure to prosecute.**

**2. Evidentiary Hearing.** If there is no resolution of the appeals at the Prehearing Conference, the Hearing Officer will schedule the appeal for an Evidentiary Hearing, date and time to be determined, at the St. Louis County Government Administration Building, 41 South Central Avenue, Clayton, Missouri.



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***\*\*Please read all of the information contained in this Order.\*\****

#### **The Role of the Hearing Officer**

The Hearing Officer is employed by the State of Missouri, not the county or Respondent. The Hearing Officer is impartial and decides the outcome of the appeal. Any communication between Complainant or Respondent and the Hearing Officer must be copied to the other party. For example, if Complainant contacts the Hearing Officer by email to ask a question about the Evidentiary Hearing, Complainant must copy Respondent on the email. The same rule applies to Respondent. The Hearing Officer may answer general questions about the manner in which the Evidentiary Hearing will be conducted but is not allowed to provide legal advice to either party.

#### **Being Prepared for the Evidentiary Hearing**

All parties are reminded the Evidentiary Hearing is a legal proceeding, and the fundamental rules of evidence apply. For example, evidence that is hearsay or that is based on an improper factual foundation will not be received into the record. The parties should make every effort to be prepared to present the case at the time of the Evidentiary Hearing.

Complainant should be aware that, under Missouri law, it is presumed that the Board of Equalization's determination of true market value of the property is correct. This means that Complainant bears the initial burden of proof in the appeal. In other words, to prove his or her opinion of the true market value of the property should be adopted over the Board of Equalization's value, Complainant must present substantial and persuasive evidence to support Complainant's opinion of value. Complainant may visit <https://stc.mo.gov/legal-decisions/> and select a search term such as "overvaluation," "discrimination," or "misclassification," to learn more about the type of evidence that is presented in appeals before the STC.

PLEASE NOTE: An individual may represent himself or herself at the hearing if he or she owns the property subject to appeal. If the property is owned or held by another person or a legal entity (your relative; a trust; a corporation, partnership, or other business), a licensed attorney must enter an appearance with the State Tax Commission prior to the hearing and must present Complainant's evidence at the hearing. NO EXCEPTIONS.

#### **Exhibits at the Evidentiary Hearing**

Complainant and Respondent *must* bring at least three copies of any documents which will be introduced into evidence at the evidentiary hearing that will support the party's opinion of value. One copy is for the Hearing Officer; one copy is for the opposing party; and one copy is for the party to retain. Exhibits should be no larger than 8½ by 11 inches in size; however, larger copies of the exhibits can be used for purposes of demonstration at the hearing. Exhibits which consist of photographs must be affixed to or copied on 8½ by 11 inch paper, and each photograph must be identified in a brief statement or phrase on the face of the exhibit. More than one photograph may be placed on one page, if space so permits to identify each photograph.

If you are presenting an appraisal report from a Missouri Certified Appraiser as evidence, the appraiser MUST be present to testify and to be cross-examined. If the appraiser is not present at the Evidentiary Hearing, the appraisal report cannot be received into evidence.

Complainant's exhibits must be marked with letters in sequence beginning with the letter A, i.e. Exhibit A, Exhibit B etc., with the appeal number. Respondent's exhibits must be marked with numbers in sequence beginning with the number 1, i.e. Exhibit 1, Exhibit 2, etc., with the



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appeal number.

#### **Testimony at the Evidentiary Hearing**

The hearing will be audio recorded. At the start of the hearing, the Hearing Officer will read information to identify the appeal and the exhibits being offered. The Hearing Officer will then swear in Complainant so that Complainant may testify under oath. First, the Hearing Officer will ask Complainant a series of questions to establish the basic facts of the case. Second, Complainant will be asked to provide his or her opinion of the true market value of the property. Complainant will be given the opportunity to present his or her exhibits and explain how the exhibits support his or her opinion of true market value. Third, Respondent will have an opportunity to cross-examine Complainant regarding his or her opinion of true market value and regarding Complainant's exhibits. If Complainant brings witnesses, the Hearing Officer will swear in each witness, and Complainant will be allowed to ask questions of the witnesses. Respondent will have an opportunity to cross-examine Complainant's witnesses.

Once Complainant has completed the presentation of his or her evidence, Respondent will be given the opportunity to present evidence, if he or she has any. Keep in mind that Respondent does not have the burden of proof and is not required to present evidence. If Respondent does present evidence, it will be presented in the same manner as Complainant's. Complainant will have an opportunity to cross-examine Respondent and any witnesses who testify for Respondent.

At the end of the hearing, the Hearing Officer will make some final statements and stop the audio-recording. A decision will not be issued immediately.

#### **What Happens Next?**

After the hearing, a written decision by the Hearing Officer will be sent to you by email.<sup>1</sup> The decision also will be published on the State Tax Commission website at <https://stc.mo.gov>. It is possible that the Hearing Officer will determine that the assessment should remain the same, should be lowered, or should be raised, depending upon the particular circumstances and the evidence. If either party disagrees with the decision, the party will have 30 days from the date the decision was issued to file an Application for Review with the three-member State Tax Commission. Following a decision by the Commission, if either party disagrees with that decision, the party will have 30 days from the date of the decision to appeal to the circuit court of the county in which the property is located.

#### **Continuances**

If you cannot attend the scheduled Prehearing Conference and need a continuance, you must put your request in **writing** and give the reason why it is necessary to reschedule the hearing. Your request for continuance must be received by the State Tax Commission Legal Section at P.O. Box 146, Jefferson City, MO 65102-0146, or by email at [Legal@stc.mo.gov](mailto:Legal@stc.mo.gov) **no later than five (5) days before the date of conference, not including intermediate Saturdays, Sundays and legal holidays.**<sup>2</sup> If Complainant does not appear at the conference and no timely

<sup>1</sup> To preserve resources for the taxpayers of Missouri, the State Tax Commission utilizes electronic communication when possible. If you do not have access to email, please inform the Hearing Officer that you will need a copy of the decision sent by U.S. Mail.

<sup>2</sup> Missouri Rule of Civil Procedure 44.01(a)



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request for continuance is made, the appeal will be dismissed for failure to prosecute.

SO ORDERED X.  
STATE TAX COMMISSION OF MISSOURI

Hearing Officer





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**Sample Residential Order – NO Prehearing Conference  
STATE TAX COMMISSION OF MISSOURI**

TAXPAYER,	)	
	)	
Complainants,	)	
	)	
v.	)	Appeal No.
	)	Parcel/Locator No.
ASSESSOR,	)	
COUNTY, MISSOURI,	)	
Respondent	)	

**ORDER ASSIGNING HEARING OFFICER  
AND SETTING DATE FOR EVIDENTIARY HEARING**

The State Tax Commission of Missouri has received a Complaint for Review of Assessment. An appeal number has been assigned (see above). The parties are requested to reference the appeal number on any filings or communications. Hearing Officer X has been assigned to the appeal for disposition. The State Tax Commission will send notification to the Collector so that any taxes paid will be impounded pending disposition of the appeal.

The Evidentiary Hearing in this appeal will be held **at x** Respondent is requested to arrange for a suitable room in which to conduct the hearing and to notify Complainant and the Commission of its location. **At least 30 days before the date of the Evidentiary Hearing**, the parties should meet in person or confer by telephone, in good faith, to attempt to resolve the appeal. If the appeal is not resolved, the parties should be prepared to meet with the Hearing Officer on the date of the Evidentiary Hearing.

***\*\*Please read all of the information contained in this Order.\*\****



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#### **The Role of the Hearing Officer**

The Hearing Officer is employed by the State of Missouri, not the county or Respondent. The Hearing Officer is impartial and decides the outcome of the appeal. Any communication between Complainant or Respondent and the Hearing Officer must be copied to the other party. For example, if Complainant contacts the Hearing Officer by email to ask a question about the Evidentiary Hearing, Complainant must copy Respondent on the email. The same rule applies to Respondent. The Hearing Officer may answer general questions about the manner in which the Evidentiary Hearing will be conducted but is not allowed to provide legal advice to either party.

#### **Being Prepared for the Evidentiary Hearing**

All parties are reminded the Evidentiary Hearing is a legal proceeding, and the fundamental rules of evidence apply. For example, evidence that is hearsay or that is based on an improper factual foundation will not be received into the record. The parties should make every effort to be prepared to present the case at the time of the Evidentiary Hearing.

Complainant should be aware that, under Missouri law, it is presumed that the Board of Equalization's determination of true market value of the property is correct. This means that Complainant bears the initial burden of proof in the appeal. In other words, to prove his or her opinion of the true market value of the property should be adopted over the Board of Equalization's value, Complainant must present substantial and persuasive evidence to support Complainant's opinion of value. Complainant may visit <https://stc.mo.gov/legal-decisions/> and select a search term such as "overvaluation," "discrimination," or "misclassification," to learn more about the type of evidence that is presented in appeals before the STC.



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PLEASE NOTE: An individual may represent himself or herself at the hearing if he or she owns the property subject to appeal. If the property is owned or held by another person or a legal entity (your relative; a trust; a corporation, partnership, or other business), a licensed attorney must enter an appearance with the State Tax Commission prior to the hearing and must present Complainant's evidence at the hearing. NO EXCEPTIONS.

#### **Exhibits at the Evidentiary Hearing**

Complainant and Respondent *must* bring at least three copies of any documents which will be introduced into evidence at the evidentiary hearing that will support the party's opinion of value. One copy is for the Hearing Officer; one copy is for the opposing party; and one copy is for the party to retain. Exhibits should be no larger than 8½ by 11 inches in size; however, larger copies of the exhibits can be used for purposes of demonstration at the hearing. Exhibits which consist of photographs must be affixed to or copied on 8½ by 11 inch paper, and each photograph must be identified in a brief statement or phrase on the face of the exhibit. More than one photograph may be placed on one page, if space so permits to identify each photograph. If you are presenting an appraisal report from a Missouri Certified Appraiser as evidence, the appraiser MUST be present to testify and to be cross-examined. If the appraiser is not present at the Evidentiary Hearing, the appraisal report cannot be received into evidence.

Complainant's exhibits must be marked with letters in sequence beginning with the letter A, i.e. Exhibit A, Exhibit B etc., with the appeal number. Respondent's exhibits must be marked with numbers in sequence beginning with the number 1, i.e. Exhibit 1, Exhibit 2, etc., with the appeal number.



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#### **Testimony at the Evidentiary Hearing**

The hearing will be audio recorded. At the start of the hearing, the Hearing Officer will read information to identify the appeal and the exhibits being offered. The Hearing Officer will then swear in Complainant so that Complainant may testify under oath. First, the Hearing Officer will ask Complainant a series of questions to establish the basic facts of the case. Second, Complainant will be asked to provide his or her opinion of the true market value of the property. Complainant will be given the opportunity to present his or her exhibits and explain how the exhibits support his or her opinion of true market value. Third, Respondent will have an opportunity to cross-examine Complainant regarding his or her opinion of true market value and regarding Complainant's exhibits. If Complainant brings witnesses, the Hearing Officer will swear in each witness, and Complainant will be allowed to ask questions of the witnesses. Respondent will have an opportunity to cross-examine Complainant's witnesses.

Once Complainant has completed the presentation of his or her evidence, Respondent will be given the opportunity to present evidence, if he or she has any. Keep in mind that Respondent does not have the burden of proof and is not required to present evidence. If Respondent does present evidence, it will be presented in the same manner as Complainant's. Complainant will have an opportunity to cross-examine Respondent and any witnesses who testify for Respondent.

At the end of the hearing, the Hearing Officer will make some final statements and stop the audio-recording. A decision will not be issued immediately.

If you cannot attend the scheduled Evidentiary Hearing and need a continuance, you must



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put your request in **writing** and give the reason why it is necessary to reschedule the hearing.

Your request for continuance must be received by the State Tax Commission Legal Section at P.O. Box 146, Jefferson City, MO 65102-0146, or by email at [Legal@stc.mo.gov](mailto:Legal@stc.mo.gov) *no later than*

*five (5) days before the date of hearing, **not including intermediate Saturdays, Sundays and***

**legal holidays**.<sup>3</sup> If you do not appear at the hearing and no timely request for continuance is made, your appeal will be dismissed for failure to prosecute.

#### **What Happens Next?**

After the hearing, a written decision by the Hearing Officer will be sent to you by email.<sup>4</sup>

The decision also will be published on the State Tax Commission website at <https://stc.mo.gov>.

It is possible that the Hearing Officer will determine that the assessment should remain the same, should be lowered, or should be raised, depending upon the particular circumstances and the evidence. If either party disagrees with the decision, the party will have 30 days from the date the decision was issued to file an Application for Review with the three-member State Tax Commission. Following a decision by the Commission, if either party disagrees with that decision, the party will have 30 days from the date of the decision to appeal to the circuit court of the county in which the property is located.

SO ORDERED x

STATE TAX COMMISSION OF MISSOURI

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<sup>3</sup> Missouri Rule of Civil Procedure 44.01(a)

<sup>4</sup> To preserve resources for the taxpayers of Missouri, the State Tax Commission utilizes electronic communication when possible. If you do not have access to email, please inform the Hearing Officer that you will need a copy of the decision sent by U.S. Mail.



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#### Sample Automobile

TAXPAYER	)	Appeal No.
	)	Account No.
Complainant,	)	
	)	
v.	)	
	)	
ASSESSOR,	)	
MISSOURI,	)	
	)	
Respondent.	)	

#### **ORDER ASSIGNING HEARING OFFICER AND SETTING DISCOVERY AND EXHIBIT EXCHANGESCHEDULE AND PROCEDURE**

The State Tax Commission of Missouri has received a Complaint for Review of Assessment. An appeal number has been assigned. Parties are requested to reference the appeal number on any filings or communications.

Please note: Property taxes must be paid timely even if an appeal is pending. In accordance with the provisions of Sections 138.430 and 139.031.3, RSMo, the State Tax Commission will send notice of your appeal to the collector so that the taxes which you are disputing will be escrowed.

#### **Hearing Officer**

Hearing Officer X has been assigned to the appeal for disposition. The Hearing Officer is employed by the State of Missouri, not the county or Respondent. The Hearing Officer is impartial and decides the outcome of the appeal. Any communication between Complainant or Respondent and the Hearing Officer must be copied to the other party. For example, if Complainant contacts the Hearing Officer by email to ask a question about the Evidentiary



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Hearing, Complainant must copy Respondent on the email. The same rule applies to Respondent. The Hearing Officer may answer general questions about the manner in which the Evidentiary Hearing will be conducted but is not allowed to provide legal advice to either party.

### **Valuation of Vehicles**

Complaint should be aware that, under Missouri law, the assessor shall use the trade-in value published in the October, prior to the valuation date of January 1, issue of the National Automobile Dealers' Association Official Used Car Guide, or its successor publication, as the recommended guide of information for determining the true value of motor vehicles described in such publication.

### **Evidence Exchange**

1. Complainant must present substantial and persuasive evidence to support Complainant's opinion of value. On or before **X**, Complainant shall file with the Commission the original of all exhibits to be used in his case in chief, including a brief Statement of Basis of Value setting forth the Complainant's opinion of value of the vehicle under appeal as of January 1, \_\_\_\_, and the basis for that opinion **and serve a copy upon opposing party/counsel.** In the event copies of documents were filed with Complainant(s) "Complaint For Review Of Assessment", Complainant(s) shall again file such documents specifically as exhibits and marked appropriately **and serve a copy upon opposing party/counsel.** Complainant's exhibits shall be marked with letters in sequence, i.e. Exhibit A, Exhibit B, *etc.*

Complainant should consider filing the following information with their Statement of Basis of Value:

- a) How often each vehicle is driven.



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- b) The odometer reading of each vehicle.
- c) A description of each vehicle, including:
  - a. The exterior of the vehicle
  - b. The interior of the vehicle
  - c. The mechanical condition of the vehicle,
  - d. The year of the vehicle.
  - e. The make of the vehicle.
  - f. The model of the vehicle.
- d) At least four (4) pictures of the exterior of each vehicle, with at least one (1) each from the front, driver's side, rear and passenger side.
- e) At least four (4) pictures of the interior of each vehicle, with at least one (1) each of the front drivers side, front passenger side, rear drivers side and rear passenger side.

2. Respondent's Exhibits and Statement of Basis of Value: On or before

\_\_\_\_\_, Respondent shall file with the Commission the original of all exhibits to be used in his case in chief, including a brief Statement of Basis of Value setting forth the Respondent's opinion of value of the property under appeal as of January 1, \_\_\_, and the basis for that opinion, **and serve a copy upon opposing party/counsel** of the Exhibits and Statement of Basis of Value. Respondent's exhibits shall be marked with numbers in sequence, i.e. Exhibit 1, Exhibit 2, *etc.*

3. Form of Exhibits: Exhibits filed with the Commission should be no larger than 8½ by 11 inches. Exhibits which consist of photographs shall be affixed to or copied on 8½ by 11 inch paper, and each photograph shall be identified in a brief statement or descriptive phrase on the face of the exhibit. More than one photograph may be placed on one page, if space so permits to identify each photograph and provide the descriptive statement. The Statement of Basis of Value should be typewritten, but if hand-written must be **legibly printed**.

4. Addresses for Filing and Serving Exhibits and Statements of Value, Etc.





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- A. Exhibits and Written Direct Testimony filed with the Commission shall be mailed to: ***Missouri State Tax Commission, Legal Section, 301 W. High Street, Room 840, P. O. Box 146, Jefferson City, MO 65102-0146***
- B. Exhibits and Written Direct Testimony served upon Respondent and/or Respondent's attorney shall be mailed to or delivered to: **X**
- C. Exhibits and Written Direct Testimony served upon Complainant shall be mailed to the Complainant at: **X**

5. Sanctions. Upon finding that a party has willfully failed to comply with this order, including, but not limited to failing to serve a copy of documents or direct written testimony upon opposing party/counsel, sanctions may be imposed which may include exclusion of the offending party's evidence or dismissal of the appeal. *12 CSR 30-3.060.*

6. Settlement Conferences. The Parties may engage in prehearing conferences and settlement discussions. Parties are ordered to notify the State Tax Commission in writing if they reach a stipulation of value or determine that they no longer wish to pursue the appeal.

7. Motions for Continuance. Parties are expected to proceed in an expeditious manner to comply with the deadlines set herein. Motions for continuance will not be looked on with favor. **The fact parties are engaged in settlement negotiations is not good cause for continuance of the discovery schedule.** Parties are in no way prevented from pursuing settlement while conducting discovery. Parties will have ample time when discovery is completed to settle the case without the need for exchange of exhibits and written direct testimony. A motion for continuance is to be filed not less than five days before the date specified for the event which stands to be affected by the motion, **not including intermediate Saturdays, Sundays and legal holidays.**<sup>5</sup>

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<sup>5</sup> Missouri Rule of Civil Procedure 44.01(a)



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**Evidentiary Hearing**

On or before \_\_\_\_\_, each party is to inform the Hearing Officer in writing if the party desires to have an evidentiary hearing in the case or if the party is willing to have the appeal decided based upon the submission of exhibits as herein ordered in lieu of an evidentiary hearing. Any party failing to respond as ordered will be deemed to have consented to a decision being rendered based upon the exhibits submitted by each party, and waived that party's right to an evidentiary hearing.

SO ORDERED \_\_\_\_\_, 20\_\_.

STATE TAX COMMISSION OF MISSOURI

Hearing Officer

**4. Appeal to the Full Commission and Judicial Review**

The taxpayer or the assessor may file with the Commission an Application for Review by the full Commission within 30 days of the date of notification or mailing of the hearing officer decision. The Commission may affirm, modify, or overturn the decision of the hearing officer. The parties have 30 days after the decision by the full Commission to appeal to circuit court.

Note: The Application for Review is a necessary step in the appeal process. If a party fails to file a timely Application for Review, his or her administrative remedies have not been exhausted, and an appeal to circuit court cannot be made.

As was previously stated, the court reviews the decision of the Commission based upon the record made at the hearing before the hearing officer (or by the Commission in the rare event the Commission heard the case or opened the case for further evidence before the Commission).

The court itself may not place value on the property but may determine if the decision of the Commission:



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1. Is in violation of constitutional provisions;
2. Is in excess of the Commission's statutory authority or jurisdiction;
3. Is unsupported by competent and substantial evidence upon the whole record;
4. Is, for any reason, unauthorized by law;
5. Is made upon unlawful procedure or without a fair trial;
6. Is arbitrary, capricious or unreasonable;
7. Involves an abuse of discretion.

If the Commission's decision is not upheld, the court will remand it to the Commission for an order in compliance with the ruling of the court. Of course, the circuit court decision may be appealed to the Appellate Court and Supreme Court of Missouri.

## 2.6 ADJUSTING TAX RATES WHEN VALUATIONS INCREASE

[Note that pursuant to section 138.340, the State Tax Commission cannot involve itself in the levy setting process. While the information here is intended to provide a rough overview of levy setting procedure, for more detail on the exact process, the assessor should contact the State Auditor's Office at 573-751-4213 or [moaudit@auditor.mo.gov](mailto:moaudit@auditor.mo.gov).]

The first statute that required tax rates to be adjusted downward when valuations increased--the first "rollback law"--was enacted in 1955. It became known as the "10 percent law" because it provided that, when real or personal valuations increased by 10 percent or more above the prior year, the local governing body was required to adjust its tax rate to yield only the amount of revenue its budget indicated was needed. This law resulted in a few rollbacks, but was largely ineffective. It was repealed after newer laws were enacted.

Recognizing that assessed values would increase greatly in all parts of the state when the higher assessments from the first statewide reassessment were placed on the tax rolls in 1985, a new rollback law was enacted, and was used that year. It embodied the principle that reassessments are intended to bring about equity among taxpayers and to assure that property values accurately reflect market values. Reassessments are not intended to result in increased revenues, beyond normal growth.

The new rollback law provided that, in setting tax rates for 1985, local governments would be



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permitted the same revenues as in 1984 plus an allowance based on the growth in assessed values that each had experienced over the previous three or five years, whichever was greater. The percentage increase each local government had experienced was called its "preceding valuation factor," and it determined the percentage growth in revenues each was permitted.

Missouri began two-year reassessment cycles in 1987. That necessitated a new rollback law because the preceding valuation factor was based on valuation growth over three or five years, and the assessment cycle was only two years.

#### **1. Present Rollback Law**

The current rollback law began in 1987, although it has undergone some changes since that time. It parallels the 1980 "Hancock Amendment," Article 10, Section 22. Under it, local officials first determine the revenues that were billed, or could have been billed, the prior year. [Assessed valuation times the total operating tax rate.] An increase is permitted over those prior year revenues, equal to the rate of inflation certified by the State Tax Commission or five percent, whichever is lower, provided assessed valuations increased by at least that percentage.

The permitted new revenue total is divided by the current year's valuation, except for new construction and improvements [which includes all increases in personal valuation]. The resulting tax rate is applied to total valuation, including new construction and improvements to determine actual revenues. Thus, revenue increases are allowed both for inflation and for new construction and improvements.

Finally, any rollbacks required because of sales tax receipts are applied. Sometimes there are additional minor adjustments.

The rate may not exceed the rate in effect in 1984, or the highest levy voted since then. Any higher rate must be approved in a referendum.

Debt service levies are simply calculated based each year on the total valuation and the amount needed to meet principal and interest, plus a reasonable reserve.

#### **2. Rate-Setting Example**



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A local government with revenues allowed the prior year of \$500,000, and a 2% cost of living could set its rate based on revenues of \$510,000. With current valuation of \$25 million, of which \$800,000 is in the form of new construction, its rate would be calculated by dividing \$24,200,000 into the \$510,000 allowed. That would give it a tax rate of \$2.11. Applying that rate to the total valuation of \$25,000,000 would result in \$527,500 in taxes levied for the current year. Of the \$27,000 increase in revenues over the prior year, \$10,000 is the result of its cost of living allowance, and \$17,500 comes from taxing new construction and improvements.

### CALCULATION OF A TAX RATE

#### **Permitted Revenues:**

$$\begin{aligned} & \text{Tax Rate Ceiling X Prior Year Total Valuation*} \\ & \quad \text{[Schools Use Locally Assessed]} \\ & \quad + \\ & \quad \text{Allowance for Inflation} \\ & \quad = \\ & \quad \text{Revenues Permitted Current Year**} \end{aligned}$$

#### **Calculation, Current Rate:**

$$\begin{aligned} & \text{Total Current Valuation} \\ & \quad - \\ & \quad \text{New Construction \& Improvements} \\ & \quad \text{[Includes Increase in Personal Valuation]} \\ & \quad \div \text{ Into} \\ & \quad \text{Revenues Permitted} \\ & \quad \div 100 \\ & \quad - \\ & \quad \text{Sales Tax Rollback} \\ & \quad = \\ & \quad \text{Current Authorized Tax Rate} \end{aligned}$$

[Some other adjustments are made, such as for annexing territory.  
This is a simplified description.]



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\*Rate includes that which was not actually levied because of sales tax rollback or voluntary reduction.

\*\*Also allowed are revenues from new construction & improvements. They are obtained by not using total valuation in the current rate calculation.

## 2.7 TAX INCREMENT FINANCING

Tax Increment Financing, or "TIF," projects are growing in popularity in Missouri. They are not tax abatements. Rather, they are intended to result in a redirection of part of the property tax (and sales tax) in an area to finance public improvements in the area. They are intended to be used in a blighted area, a conservation area or an economic development area where such improvements are needed to make it attractive for development. To establish a TIF, the local government must determine that no development would reasonably be anticipated without adoption of a redevelopment (TIF) plan.

TIFs are authorized by Sections 99.805 to 99.865, RSMo. They permit a city or county to finance costs associated with the redevelopment by issuing bonds or other obligations. The assessor determines the total assessed valuation of all taxable real property as of January 1 of that year, and certifies the value to the officials of each local taxing unit. That total base value is held constant, and taxes collected on it are distributed to taxing units as before, using the tax rates set each subsequent year.

Each year that the TIF is in effect, the assessor determines the amount of added value of real property in the TIF area, or the "increment." This added value is subject to the same tax levies as the base value, but the payment is considered in lieu of taxes and is diverted to the payment of the TIF obligations. (Part of the sales tax collected in the area is also diverted.)

The added "TIF" value is reported as a part of the assessed value of the county and other political subdivisions, and is included on Forms 11 and 11A. It is deducted by school districts, however, when they calculate their foundation formula monies, and by local governments setting their tax rates.

The only responsibility of the assessor in the TIF process is to assess the property and report those assessments.



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Questions about TIFs should be directed to the Department of Economic Development, 573-751-0717 or [ecodev@ded.mo.gov](mailto:ecodev@ded.mo.gov).

## 2.8 PROPERTY TAX ABATEMENTS

Unlike exemptions, property tax abatements are given for a limited period of time. Article X, Section 7 of Missouri's Constitution gives authority for partial tax relief for forest croplands and, with a 25-year limit, to promote "reconstruction, redevelopment, and rehabilitation of obsolete, decadent, or blighted areas..." The economic development statutes are directed toward specific areas where such development is considered to be in the public interest.

### **1. Enterprise Zones and Enhanced Enterprise Zones**

Authorized in Chapter 135, Enterprise Zones are specified geographic areas designated by local governments and certified by the Department of Economic Development (DED). Zone designation is based on certain demographic criteria, the potential to create sustainable jobs in a targeted industry and a demonstrated impact on local industry cluster development. Enhanced Enterprise Zones are the "replacement" for Enterprise Zones.

#### **A. Enterprise Zones**

Enterprise zones must have been designated after August 28, 1991 but before August 28, 2004. Enterprise zones benefit from abatements of at least 50% of all property taxes for improvements to real property used for manufacturing, assembling, fabricating, processing, mining, warehousing or distribution for at least the first ten years. The abatements must end after 25 years. Section 135.215.3, RSMo

Improvements made to real property for activities other than those specified in the preceding paragraph **may** be abated if a minimum of 50 new jobs averaging 35 hours per week are created and maintained in the enterprise zone. These abatements could be set for any number of years, but not longer than 25 years. (However, the Missouri Supreme Court in a St. Louis case,<sup>[1]</sup> granted authority to provide abatement for a second 25-year period on the same property under the premise that it was a new blight circumstance.) Section 135.215, RSMo. If improvements to real property are made by eligible businesses other than manufacturers, wholesale distributors, warehouse and mining



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operators (noted in 137.215.3), the abatement may be granted from 0% to 100% and may apply only to one or any other number of affected political subdivisions.

Only taxes on subsequent improvements made to real property in an enterprise zone may be abated. An Enterprise Zone abatement extends to all new improvements made to real property after the designation date. Improvements can be grading, draining, installation of culverts, etc., or the construction of buildings. Existing improvements do not qualify for abatement.

Personal property taxes may not be abated. The exemptions allowed in sections 135.215 are not allowed to any "public utility"; as such term is defined in section 386.020, RSMo. Section 135.230, RSMo.

The governing body has the flexibility to apply abatements (other than that required) to some and not other political subdivisions. Additionally, the percentage of abatement may differ depending upon the terms of the resolution. For instance, a governing body may prefer one type of business to another and offer that type a higher percentage abatement than the less preferred.

Effective August 28, 2004, any abatement or exemption provided for under the provisions pertaining to Enterprise Zones on an individual parcel of real property shall cease after a period of thirty days of business closure, work stoppage, major reduction in force, or a significant change in the type of business conducted at that location. For the purposes of this subsection, "work stoppage" shall not include strike or lockout or time necessary to retool a plant, and "major reduction in force" is defined as a seventy-five percent or greater reduction. Any owner or new owner may reapply, but cannot receive the abatement or exemption for any period of time beyond the original life of the enterprise zone. (Section 135. 215 RSMo) Further, after January 1, 2007, all enterprise zones designated before January 1, 2006 shall be eligible to received the tax benefits under sections 135.950 to 135.970

### **B. Enhanced Enterprise Zone – 135.950**

Enhanced Enterprise Zones were created in 2004. They essentially substituted the words “enhanced

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business enterprise” for “assembling, fabricating, processing, manufacturing, mining, warehousing or distributing properties.”

“Enhanced business enterprise” is defined as an industry or one of a cluster of industries that is either (a) identified by the department of economic development as critical to the state’s economic security and growth; or (b) will have an impact on industry cluster development, as identified by the governing authority in its application for designation of an enhanced enterprise zone and approved by the department. It does NOT include gambling establishments, and food and drinking places.

This section governing enhanced enterprise zones mandates abatements of at least 50% of all property taxes for improvements to real property used for enhanced business enterprises for at least the first ten years. After the first ten years, abatements from 0 to 100% are permitted for the next fifteen years. Section 135.963.5, RSMo 2004

Only taxes on subsequent improvements made to real property after August 28, 2004 in an enterprise zone may be abated. Personal property taxes and taxes on real property improvements existing before the designation of the zone may not be abated.

The governing body has the flexibility to apply abatements (other than that required) to some and not other political subdivisions. Additionally, the percentage of abatement may differ depending upon the terms of the resolution. For instance, a governing body may prefer one type of business to another and offer that type a higher percentage abatement than the less preferred.

### **C. Assessor’s Duty**

The law requires all real property to be reassessed every two years. Property within an enterprise zone is no exception and should be revalued every two years as well. This process includes review for proper sub-classification. After the property is reassessed, unabated properties (including the land, pre-existing improvements, and subsequent improvements which do not qualify for abatement or are not abated by the resolution) are subject to being taxed on the new assessed value similar to any other property.

For improvements built subsequent to the designation of the enterprise zone, qualifying for abatement, and abated pursuant to the relevant resolution, the new assessed value should be established and recorded, then the appropriate abatement percentage applied to the updated



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assessment of the improvements.

Simply put, Missouri law does not authorize a “freezing” of assessed value in an enterprise zone. Rather, property values should be updated in the same manner as other properties, and when the reassessment is completed, the abatement should be applied to the updated assessment of the properties subject to abatement.

Additionally, section 137.237, RSMo requires that in each odd-numbered year the assessor identify, list, and state the true value in money of the property in the county which is totally or partially exempt from ad valorem taxes because of Tax Increment Financing (sections 99.800 to 99.865, RSMo); Enterprise Zones (sections 135.200 to 135.255, RSMo); and Urban Redevelopment Corporations (section 353.110, RSMo). This report, commonly referred to as the “November First Report” must:

1. Identify and list the properties;
2. State the true value in money of the properties included;
3. State the number of years of abatement remaining; and
4. Provide the percentage of true value exempted for the abated properties.

The report must be filed with the state tax commission on or before November first of every odd-numbered year. Such report, in summary form, must be included in each reassessment notice stating the tax abatements in the county and a statement that a list of specific abated properties is available for inspection upon request at the county courthouse.

The statutes do not spell out who is supposed to notify the assessor or what form that notification takes. Each Enterprise Zone is required to designate a local zone coordinator. This person should work with the assessors to provide the needed information regarding the percentage of abatement and which businesses qualify.

#### **D. Further Information**

The Missouri Department of Economic Development, Incentive Section, 301 West High Street, Box 118, Jefferson City Missouri, 65102, administers the Enterprise Zone program, possesses the expertise concerning the law pertaining to enterprise zones. This agency may also be reached at its email address, [dedfin@ded.state.mo.us](mailto:dedfin@ded.state.mo.us), at their website, [www.missouridevelopment.org](http://www.missouridevelopment.org), or by phone, 573-751-0717.



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## **2. Urban Redevelopment Corporations**

Authorized in Chapter 353, RSMo, Urban Redevelopment Corporations were originally designed in 1943 for St. Louis and Kansas City to address urban blight. They may now be established in any city.

To establish an Urban Redevelopment Corporation, the governing authority adopts a resolution declaring an area blighted--that it has become an economic and social liability because of age, obsolescence, inadequate or outmoded design or physical deterioration and other such conditions which are conducive to ill health, crime or inability to generate reasonable taxes. Blight can mean lack of parking, buildings not suited for modern merchandising, a high rate of vacancies, or declining building conditions or property values.

Urban Redevelopment Corporations are private, not-for-profit entities. The city gives them certain rights and powers in return for redeveloping an area. The city may grant property tax abatements for up to 25 years. Although most abatements have been for new improvements made to real estate that is not a requirement of the statute. All real property owned by the Redevelopment Corporation could be exempted. Abatements must total 100% not to exceed 10 years (the time period could be less) after the Corporation obtains the property. Land and improvements are then reassessed on the 11th year, and an abatement of from 50% to 100% can be granted for a period not to exceed the next 15 years.

The assessor determines the value of the land, exclusive of improvements, for the year prior to the year the Corporation obtained the property (Sec. 353.110.1). That assessment is not increased until the initial period of abatement has ended.

The city and Corporation may agree to make payments in lieu of taxes.

## **3. Land Clearance Authority Abatements**

Special power is granted to Land Clearance for Redevelopment Authorities in constitutional charter cities by Section 99.700 to abate taxes. Persons building or rehabilitating real estate in a blighted area may apply to the Authority for abatement. When the Authority grants a certificate of abatement, the taxpayer notifies the assessor, who issues a statement as to the current assessed valuation. That assessment remains in effect for ten years, except that it may be increased or



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decreased for property other than the construction included in the plan approved by the Authority.

#### **4. Forest Cropland**

A form of abatement is provided by Chapter 254 for commercial tree production. Land approved by the State Forester as forest cropland is assessed \$1 per acre if approved through 1974, or \$3 an acre if approved since, and taxed on that basis for up to 25 years. The Conservation Commission sends to each county at least 50 cents per acre of privately-owned forest cropland each year (and 75 cents per acre for state-owned classified land). When the timber is harvested on forest cropland, a stumpage fee is imposed and its receipts are placed in the Commission's fund. The assessor is prohibited (Section 254.120) from increasing assessments on other property owned by the forest cropland owner to compensate for taxes lost on the forest cropland.

### **2.9 THE LEGISLATIVE PROCESS**

Missouri's Constitution (Article III, Sections 21 to 35), statutes (Chapter 21), and House, Senate and Joint Rules spell out in great detail legislative procedures to be followed. The basic process of enacting a bill into law is straightforward, and is depicted in the adjoining illustration.

The path followed by an introduced bill includes its first reading, which is only by title, receiving a number, printing of copies, being read a second time and referred to a committee by the presiding officer, receiving a public hearing and being considered in executive session by the committee. The committee may reject the bill, adopt a substitute bill, combine it with other measures in a substitute, or approve the bill with amendments.

The committee chairman reports the bill (and amendments, if any) to the floor, and the bill is placed on a calendar of bills awaiting perfection (possible amendment on the floor and first-round approval by the full body). If the bill is a committee substitute, it is printed again. Bills are taken in turn from the formal calendar. When reached, the bill may be placed on the informal calendar for later consideration, or can be acted upon. Committee amendments are considered, and amendments may be offered on the floor. Amendments may be adopted, or a house substitute adopted. The bill is then "perfected," or approved as changed, printed a second time (third time if a committee substitute) and placed on another formal calendar for third reading. Third reading is the final adoption by the body, and does not include further amendments. It requires a roll call vote, and approval by a constitutional majority of the body.



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When a bill reaches the second house, it is read by title and referred to committee, where the process is repeated, with hearings, amendments, etc. If it is a committee substitute, it is printed again after being reported to the floor to be placed on the calendar. Any changes by the second house must be approved by a roll call vote in the first house, or the bill is returned. If the second house does not retreat on the changes, the bill must go to a conference committee of five members from each house. The report of that committee must be adopted without change by both houses before the bill can become law.

Once it is truly agreed and finally passed, the bill is signed in open session by the presiding officer of each chamber. Legislation is sent to the governor for signature, and proposed amendments to the Constitution are sent to the secretary of state for submission.

A vetoed bill is returned to the chamber where it was introduced. If a two-thirds vote there overrides the veto, the bill is sent to the second chamber, where it must again receive a two-thirds vote, or the veto is sustained. In any year in which the governor has vetoed a measure too late for the legislature to consider the veto, the legislature meets in the fall in a veto session, where all bills that were vetoed at the end of the session or after adjournment are placed on the agenda. Those are the only issues before that session unless the governor calls a special session to coincide with the veto session. Special sessions are limited to the subjects included in the call.

Each legislature meets for two regular sessions in its biennium, each lasting from early January to mid-May. Although the legislature meets each year, all bills are tabled at the end of each annual session. If the legislator wishes a tabled bill to be considered, it must be introduced again the following year.

## 2.10 PUBLIC RECORDS--THE SUNSHINE LAW

### 1. Definition

The Sunshine Law is embodied in Chapter 610 RSMO and is intended to open the records, meetings, and votes of governmental bodies to public examination. The assessor is often most concerned with what is and what is not a public record. Section 610.010.(6), in pertinent part, defines a public record as:



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"Public record", any record, whether written or electronically stored, retained by or of any public governmental body including any report, survey, memorandum, or other document or study prepared for the public governmental body by a consultant or other professional service paid for in whole or in part by public funds . . . .

A few exceptions are listed in Section 610.021 RSMo. These include documents related to litigation, legal actions, attorney-client communications, personnel records, the leasing or sale of real estate, etc. However, virtually every other document and electronically stored information retained in the assessor's office is public record. Attorney General Opinion 117-91 (May 16, 1991) concluded that the property record cards are public records.

### 2. Access

Section 610.023 RSMo states that each public governmental body shall make its public records available for inspection and copying by the public upon request. The request must be acted upon "as soon as possible" but in no event later than the end of the third business day following the date of the request. If it is impossible to comply with these time constraints, the custodian of the records must give a detailed explanation for the delay and specify the earliest time and date the records will be available.

### 3. Copying

Section 610.010.(2) states the if a member of the public requests a copy of a public record, and duplication equipment is available, photocopies will be provided at actual cost. Below is a summary of costs that may be received for copying public records pursuant to section 610.026:

1. Fees for copying documents smaller than nine by fourteen inches are limited to a 10 cent per page charge and the hourly fee for duplicating the document. The hourly fee may not exceed the average hourly rate of pay for clerical staff of the office.
2. Fees for documents larger than nine by fourteen and for tapes, disks, videos, maps, pictures, slides, etc. shall be based on the cost of the copies and staff time—not to exceed the hourly rate of pay for staff of the public governmental body.
3. Research time for fulfilling record requests may be charged at the actual cost of such time, but the office must use employees that will result in the lowest amount of charges.
4. Before copies are produced, the requestor may request an estimate of the costs of duplication.



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5. Documents may be furnished without charge or at a reduced rate if it is in the public interest because it contributes significantly to public understanding of the governmental body and is not primarily in the commercial interest of the requestor.

It is important to note that the per page copy cost for documents less than nine by fourteen inches is not “capped” at ten cents. Instead, the charge is ten cents per page plus the hourly fee for staff time to duplicate the document. The payment of copying fees may be requested prior to making of copies. Section 610.026.2

#### 4. **Penalties**

If a court finds that a person “knowingly” violates this law, the violator is subject to a fine of up to \$1,000, and the judge may order the violator to pay all costs and attorneys fees. If a court finds a person “purposely” violates this law, the violator may be subject to a fine of up to \$5,000, and the judge shall order the violator to pay all costs and attorneys fees. Section 610.100.6

#### 5. **Sources**

The Office of the Attorney General (P.O. Box 899, Jefferson City, MO 65102, Telephone 573-751-3321) makes available a pamphlet entitled *The Missouri Sunshine Law* which provides excellent, detailed information regarding public records and meetings. The pamphlet and other useful, up-to-date information are also available at: <http://www.ago.mo.gov/sunshinelaw/>.

#### 6. **Exceptions – Records of Mining Companies**

Section 137.115.17 RSMo. (2016) states that “Any information provided to a county assessor, state tax commission, stage agency or political subdivision responsible for the administration of tax policies shall, in the performance of its duties, make available all books, records, and information requested, except such books, records and information as are by law declared confidential in nature, including individually identifiable information regarding a specific taxpayer or taxpayer’s mine property. For purposes of this subsection, “mine property” 185 shall mean all real property that is in use or readily available as a reserve for strip, surface, or coal mining for minerals for purposes of excavation for current or future use or sale to others that has been bonded and permitted under Chapter 444.

## 2.11 RULES OF THE STATE TAX COMMISSION



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The State Tax Commission's rules are designed to explain and supplement the statutes. The rules are printed at 12 CSR 30 and in the **Annual Report of the Proceedings of the State Tax Commission** (hereinafter, **Annual Report**). They may also be found at the Commission's website: <http://www.stc.mo.gov>. "CSR" is the abbreviation for Code of State Regulations which may be found at many libraries. The **Annual Report** is a paperback book mailed yearly to each assessor and clerk in the state. In addition to the rules, this report contains information such as valuation of utilities, assessed values by counties, decisions of the State Tax Commission, etc. State Tax Commission rules do not change often, but prior to relying upon the published rules, the assessor should check to see if any changes have been made since the publication of the book. Feel free to call the legal section of the State Tax Commission (**573-751-1715**) for information on amendments to the rules.

### 2.12 CALENDAR OF STATUTORY DATES

#### January 1

**All Counties**--Assessment year begins; Assessment valuation date. Tax liability date. Sections 137.075, 137.080, 135.115(1), RSMo.

**All Counties**--In even-numbered years, assessor to submit two-year assessment maintenance plan to county governing body and STC. Section 137.115(1) RSMo.

**All Counties**--Agricultural land separated or split-off, may be reassessed if it no longer retains agricultural use. Section 137.021(3) RSMo.

**Certain Second Class Counties**-- building permit list to assessor. Section 137.177(4), RSMo.

**St. Louis City**--Assessment process begins. Section 137.490 RSMo.

**STC**--STC to make ranges in value based upon land's productive capabilities for classification of agricultural and horticultural property (defined Section 137.016, RSMo) available to assessors on or before December 31st of odd-numbered years. Section 137.021, RSMo.





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**STC--Original Assessment**--Public utility/railroad tax forms mailed from STC. Section 151.020

#### February 1

**All Counties**--County governing body to approve and forward assessor's two-year assessment maintenance plan or its alternative to STC. Section 137.115(1) RSMo.

#### March 1

**All Counties Except St. Louis City**--Taxpayers' (except specified exceptions) personal property lists due to assessors. Sections 137.280 & 137.345 RSMo.

**STC**— On or before December 31 of the odd-numbered year, the STC publishes values to take effect (if not disapproved by the General Assembly) in the next odd-numbered year. 137.021 RSMo.

#### April 1

**Department of Revenue**--Assessors receive list of motor vehicles from Department of Revenue. Section 137.116, RSMo.

**St. Louis City**--Taxpayers' personal property lists to assessor. Section 137.495, RSMo.

**St. Louis City**--Assessment process ends. Section 137.490, RSMo.

**STC**--Provides county clerks a list of automatically filed appeals under the two year assessment cycle. 12 CSR 30-3.005.

#### April 15

**STC--Original Assessment**--All railroad, public utility, pipeline, long distance carrier and private car company local assessment forms for real property are required to be submitted to the county assessor by each company. Section 151.030. The Aggregate Statement of Property is required to be submitted to the STC (Schedules 1-10 & 13).



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**STC--Original Assessment**--County Apportionment is required to be submitted by county clerk. (Schedule 13)

#### **April 20**

**STC--Original Assessment**--Assessor must certify true market value and assessment of all locally assessed property from the report received on March 1 and/or April 1, to the county clerk, company and the STC (Schedule 14).

#### **May 1**

**All Counties**—Assessor must notify the STC of aircraft not owned by an airline company for which the owner has requested the STC to assess pursuant Section 155.040.3.

**Original Assessment**--Copy of Schedules 11, 12, 14, 15, 16 & 17, when applicable, must be submitted to the STC by each company. Statutes on original assessment: Section 155.020, RSMo; Section 153.050, RSMo; Section 151.040, RSMo; Section 151.020, RSMo. STC Rule: 12 CSR 30-2.020.

#### **1st Week in May**

**STC**--Form 11 sent to county clerks.

#### **1st Monday in May**

**St. Louis City**--Assessor's books due. Section 137.510, RSMo.

#### **2nd Monday in May**

**St. Louis City**--Appeals to the Board of Equalization due at the Assessor's office. Section 138.180, RSMo.



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**St. Louis City**--Board of Equalization to be appointed by Mayor. Section 138.140(1), RSMo.

#### May 15

**First Class Counties**--Assessors to make and complete a list of all real and tangible personal property and assess the property at its true value in money. The assessor's book to be returned to county governing body by May 15, but may be extended to May 31. Sections 137.335, 137.375(1), RSMo.

**Original Assessment**--County clerks must certify to the STC that the county apportionment (Schedule 13) received on April 15 is either correct, or else certify the correct number of miles in each taxing jurisdiction.

#### 3rd Monday in May

**St. Louis City**--Board of equalization reviews Assessor's book and hears complaints for four (4) weeks. Section 138.170(1), RSMo. Omitted property may be added and hearings held after notice to taxpayer. 138.150 RSMo.

#### Mid-May to June 1

**STC--Original Assessment**--notice to Public Utilities/Railroads of tentative assessments 12 CSR 30-2.021 (1) (A).

#### May 31

**All Counties Except St. Louis City**--Assessor's book to be returned to county commission. Section 137.245(1) RSMo. (Also, see May 15 entry regarding first class counties).

#### June 1

**All Counties Except First Class Charter**--Assessors shall make and certify to the county commission abstracts of property lists. Section 53.175, RSMo.



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**Township Organization Counties**--Assessor's book to county clerk. Sections 137.425(2), 137.445, RSMo.

**Township Organization Counties**--Assessment lists to county clerk. Section 137.450, RSMo.

**STC**--Consumer Price Index (CPI), available on June 1 (April CPI), certified to county clerk. Section 137.073.4, RSMo.

#### **Late May to Early June**

**STC--Original Assessment**--informal hearings on Public Utility/Railroad assessments 12 CSR 30-2.021 (1) (A)

#### **1st Monday in June**

**First Class Counties**--Boards of equalization, excluding St. Louis City, convene. In year of general reassessment (odd-numbered year), may begin after May 31st. Section 138.090, RSMo. Omitted property may be added and hearings held after notice to taxpayer. Section 138.070 RSMo.

#### **2nd Week in June**

**STC**--Form 11A sent to county clerks (so that it may be in possession of boards of equalization by 2<sup>nd</sup> Monday in July). Section 138.400, RSMo.

#### **Before 3rd Monday in June**

**First Class Counties**--Appeals due to Board of Equalization before 3<sup>rd</sup> Monday in June. Section 137.385, RSMo.

#### **June 10**

**First Class Counties**--Aggregate Abstract of Valuation (Form 11) due at STC. Section 137.375(3),



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#### **Mid-June**

**Original Assessment**--Notice to Public Utilities/Railroads of final assessments Section 151.090.

#### **June 20**

**Second, Third, and Fourth Class Counties**--County clerk to send Aggregate Abstract of Valuation (Form 11) to STC. Section 137.245(2), RSMo.

**St. Louis City**--Aggregate Abstract of Valuation (Form 11) due to Mayor & STC. Section 137.515, RSMo.

**STC** Valuation of real and tangible personal property among counties to be equalized by STC between June 20 and second Monday in July. Section 138.390 RSMo.

#### **Before 3rd Monday in June**

**First Class Counties**--Written appeal to board of equalization to county clerk. Section 137.385, RSMo.

#### **July 1**

**All Counties**--The clerk (assessor in St. Louis City) to forward copy of aggregate valuation to governing body of each political subdivision. Section 137.245(3), RSMo.

**Certain Second Class Counties**--Building permit list to assessor. Section 137.177(4), RSMo.

**STC--Original Assessment**--Certification of Railroad and Utility assessments to counties Section 151.040.

#### **2nd Monday in July**



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**Second, Third, and Fourth Class Counties**--Boards of equalization convene. In year of general reassessment (odd-numbered year), boards may begin after May 31st. Section 138.010(2), RSMo.

**Second, Third, and Fourth Class Counties**--Hearing for owners of omitted property added to assessor's book not less than 5 days after notice. Sections 138.070. and 138.150 RSMo.

**STC**--Report of Valuation changes (Form STC-005) by STC due to county clerks. Section 138.400(2), RSMo.

**STC**--Final day to equalize real and personal property values among all counties in the state under Section 138.390 RSMo. See June 20 entry.

### **Last Saturday in July**

**First Class Counties**--Boards of equalization adjourn. Section 138.120(3), RSMo. (Held to be directory, not mandatory. 529 S.W.2d 384).

### **Once a Month To End of Year**

**First Class Counties**--Boards of equalization to hear allegations of erroneous double assessments and clerical errors. Section 138.100(2), RSMo.

### **2nd Monday in August**

**Second, Third and Fourth Class Counties**--Meeting of county board of equalization (known as "Board of Appeals") to hear persons whose values were raised on boards own initiative. Section 138.050(1), RSMo.

### **August 15**

**First Class Counties and St. Louis City**--Complaints for Review of Assessment due at STC on August 15 or 30 days after final action of board of equalization, whichever is later. Sections



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138.110 and 138.430.1, RSMo. 12 CSR 30-3.010.

#### **4th Monday in August**

**Most Counties**--Lands and lots with delinquent taxes are subject to sale. Section 140.150 RSMo.

#### **September 1**

**All Counties**--Each political subdivision, except counties, fix rate and send to county clerk for entry in tax book. Section 67.110 RSMo.

**All Counties Where Assessors Are Elected**--Newly elected assessors take office. Section 53.011 RSMo.

#### **September 3--"120 Days Before January 1"**

**STC**--STC to furnish assessment blanks to assessor at expense of counties. Section 137.110 RSMo.

#### **September 15**

**First Class Counties**--County clerk to deliver book to collector if county clerk does not extend figures. Section 137.392, RSMo. (Also, see October 15 entry).

#### **September 20**

**First Class Counties**--County commission to determine amount of revenues needed to be raised for county purposes and set tax rates accordingly. Section 137.390, RSMo.

**Second, Third, and Fourth Class Counties**--Governing body shall ascertain amount of revenues needed to be raised, schedule public hearing on tax rate, and set tax rate. Section 137.055, RSMo.

#### **September 30**



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**Second, Third and Fourth Class Counties**--Complaints for Review of Assessment due at STC. Section 138.460(2), RSMo; or 30 days after the final action of the board of equalization, whichever is later. Section 138.430.

**St. Louis City**--Assessor to prepare and give tax bills to comptroller. Section 137.520, RSMo.

#### October 1

**Third and Fourth Class Counties and Certain Second Class Counties**--Assessor to provide collector a list of all real property transfers occurring between January 1st and September 1st that year. Section 53.073 RSMo.

#### October 31

**First Class Counties**--Clerk to extend taxes on book and deliver to collector. Section 137.392, RSMo.

**Second, Third, and Fourth Class Counties**--County clerk delivers extended book to collector. Sections 137.290, RSMo.

**St. Louis City**--Comptroller to deliver tax bills to collector and get receipt. Section 137.520, RSMo.

#### Between Board Adjournment and November 1

**All Counties**--County Abstract (Form 11A) due at STC. Section 138.400(3) RSMo.

**STC**--From the time the board of equalization adjourns sine die through November 1, STC may call board of equalization into session when final valuation fixed by board of equalization differs materially from final valuation fixed by STC. Section 138.400(4), RSMo.

#### November 1

**All Counties**--In odd-numbered years, assessors to submit lists of tax exempt properties to STC





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Section 137.237.

**STC--First Class Counties**--STC to furnish assessment blanks to assessor "60 days before January first". Section 137.335 RSMo.

#### **December 1**

Tax bills must be mailed. Section 52.230, RSMo.

#### **December 31**

**STC**--In even-numbered years, STC to promulgate values for agricultural grades. Section 137.021 RSMo.

#### **Daily**

**St. Louis City**--Assessor to make record of transfers of land recorded in recorder's office and change records accordingly. Section 137.535, RSMo.

#### **Any Term of County Commission Before Taxes Paid**

**Second, Third, and Fourth Class Counties**--County Commission may correct erroneous assessments, mistakes, defects in descriptions of land, or double payments of taxes. Section 137.270, RSMo.

#### **15th of Each Month**

**Third and Fourth Class Counties**--Recorder to furnish list of real estate transfers in county to assessor. Section 137.117, RSMo.

#### **Annually**

**All Counties**--County clerk shall send the STC a copy of the statement of assessment and taxes



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charged (forms 1309, 1310 and 1313). Section 137.295 RSMo.

**Township Counties**--County clerk to make for each township collector a correct, alphabetical list of persons owing taxes on personal property, the property assessed, the aggregate value of property assessed to each person, and the taxes due. Section 137.465 RSMo.

**STC**--STC shall make official visit to each county. Section 138.415, RSMo.

**STC**--STC empowered to call group meeting of assessors. Section 138.450, RSMo.

**STC**--STC to certify to Director of Revenue and Commissioner of Education a copy of most recent annual report containing total valuation of all taxable properties (distributed approximately June 1). Section 138.445, RSMo.



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### 3.0 ORIGINAL ASSESSMENT

All other departments within the State Tax Commission are advisory, supervisory, administrative, etc. The original assessment department is the sole department which is actually charged with preparing the assessment of property, specifically, railroad and utility property.

#### 1. Missouri Statutes

The statutes of the State of Missouri provide for the taxation of railroad and public utility companies in Chapters 151 and 153 of the Revised Statutes of Missouri (RSMo)

#### 2. Fair Market Value

It is our obligation at the State Tax Commission to appraise and assess railroad and public utility property at fair market value.

The basic theory of property taxation is that property should be taxed relative to its value, presumably determined by what it would sell for in an open market. The comparable sales concept works well for determining the value of traditional real estate, but is rarely used for determining the value of railroads and public utilities. The appraiser must utilize various methods and techniques to fairly estimate what the utility's property would sell for if it were offered for sale on the open market, by a willing buyer and willing seller, both of whom are knowledgeable, but are not forced to buy or sell.

There are two methods of arriving at fair market value. The first, known as the summation method, inventories each item of property and values it separately regardless of the cooperative effect it may have with the utility's other property. This generally produces values that do not reflect the value of the integrated property taken as an operating unit. The fallacy in this method is that without looking at how the individual piece of property contributes to the whole unit, the individual piece of property may be more valuable or less valuable to the unit than if valued independently of the unit. Because of the limitations of the summation method, the unit method

(or "unit rule") has been implemented to determine fair market value.

### **3. Unit Value**

The unit concept means that a collection of tangible assets functioning as an operating unit are to be appraised as a whole without reference to separate value of the component parts. Value accrues to the assets because of their ability to generate benefits as an operating unit.

In 1904, the Wisconsin Supreme Court presented logic behind a unit appraisal when it said:

“The separate value of the parts in the aggregate would not necessarily approximate to or be any legitimate measure of the value of all the parts, viewed as one complete machine so to speak. The plant in its parts as realty and personalty according to the character thereof, irrespective of the combination of all into one entire thing, might be of little value, and probably would be, as compared to what they would represent in the new form, produced by the union of many parts into one. The great value is produced by the combination of parts into one complete working machine, adapted in a high degree to the service of man.”<sup>1</sup>

The National Tax Association of Tax Administrators' Committee on Unit Valuation stated why a unit appraisal should be used:

“A unit appraisal is superior to summation appraisal ... Not only because it produces a result that is closer to the true value of the property as a whole but because it produces that result by resorting to more reliable and more readily available evidence of value than those that would be used for a summation appraisal.”<sup>2</sup>

Therefore, the overriding concept in the valuation of utility and railroad property for ad valorem tax purposes is directed toward the unit value concept.

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<sup>1</sup> Washburn v. Washburn Waterworks Co., 120 Wis. 575, 585, 98 N.W. 539 (1904)

<sup>2</sup> Appraisal of Railroad and Other Public Utility Property for Ad Valorem Tax Purpose, Report of the Committee on Unit Valuation, National Association of Tax Administrators (1954)

Valuation of utilities and railroads is complicated by the fact that these companies are affected by market forces of supply and demand as well as regulated by government commissions. As a result, basic appraisal principles and procedures may require adaptation to fit the condition of governmental regulation. This factor must be considered throughout the appraisal process.

Consistent with appraisal theory, to arrive at a unit value, three approaches to value are utilized. They are the **cost approach**, the **market approach** and the **income approach**. Utilizing more than one method provides a better indication of value and provides a "**check**" on each of the other methods.

#### **4. Correlation**

Finally, after the three approaches to value have been calculated, the next step is the correlation process. In this step of the appraisal process, the strengths and weaknesses of each approach must be weighed and analyzed. The final value is a judgment decision by the appraiser based on knowledge of the facts. The appraiser should not assign a specific weight to be used for each approach, nor simply average the approaches, but should place the most emphasis on the approach or approaches which the appraiser has the most confidence while relying on the other approaches for support.

#### **5. Allocation**

After a fair market value has been correlated, the next step is to allocate the portion of the market value which is applicable to the assessing taxing district (i.e., Missouri). This is many times, a difficult and rather subjective task. There are many allocation elements which can be derived. We have utilized a process where we combine quantity and use/value factors to arrive at a Missouri allocation factor.

For reference to the allocation procedure for the various industries, please refer to the State Tax Commission rules on allocation of unit value (12 CSR 30-2.016)

After the allocation to the State of Missouri, the locally assessed properties are deducted to arrive at

the distributable utility or railroad property.

Locally Assessed Property: Detailed information about locally assessed properties can be found in 12 CSR 30- 2.015.

The local assessor is responsible for the assessment of real and personal property of water companies, gas distribution companies, cable television companies and rural electric cooperatives. For the companies deemed to be state assessed, the local assessor is also responsible for local assessment of certain properties of these companies. These properties include:

**Railroad Companies:**

- Construction-work-in-progress
- Materials and supplies
- Motor Vehicles
- Office furniture, office equipment and fixtures
- Office buildings, warehouses
- Roundhouses, workshops
- Land and buildings not assessed as distributable
- Communication equipment not used in the movement of passengers and freight

**Telecommunication Companies:**

- Construction-work-in-progress
- Materials and supplies
- Motor Vehicles
- Office furniture, office equipment and fixtures
- Office buildings and land
- Land held for future use
- Buildings used predominantly to house local property and land
- Workshops, warehouses and land
- Work equipment and other general equipment

**Pipeline Companies:**

- Construction-work-in-progress
- Materials and supplies
- Motor Vehicles
- Office furniture, office equipment and fixtures
- Land held for future use
- Communication equipment not used for control of transportation of gas or liquid products
- Workshops, office buildings, warehouses, storage tanks, loading and unloading facilities
- Land associated with other locally assessed property

**Electric Companies:**

- Motor vehicles
- Construction-work-in-progress
- Materials and supplies
- Office furniture, office equipment, office fixtures
- Coal piles, nuclear fuel
- Land held for future use
- Workshops, warehouses, office buildings and generating plant structures
- Communication equipment not used for control of generation and distribution of power
- Roads, railroads and bridges
- Reservoirs, dams and waterways
- Land associated with other locally assessed property and all generating plant land

To assess these properties, the local assessor should use the State Tax Commissions' Form 30, Schedules 14, 15, 16 and 17. *The companies are to complete their information and return it to the local assessor by April 1<sup>st</sup> of the tax year (151.110).* By April 20 the assessor must certify the true market value and assessment of all locally assessed property to the company, the county clerk and the State Tax Commission. The assessor should use the applicable statutory assessment rate for any locally assessed property.

## **6. Apportionment**

Pursuant to RSMO Chapter 151.080, the State Tax Commission shall apportion the aggregate value of all distributable property to each county, municipal township, city or incorporated town, special road districts, library districts, hospital districts, metropolitan zoological park and museum districts, public water supply, fire protection and sewer districts according to the ratio which the number of miles in these counties and districts bear to the whole length in the state.

### **3.1 AIRCRAFT**

Pursuant to Chapter 155, the State Tax Commission is responsible for determining the assessed value of aircraft owned by airline companies and may determine the assessed value of aircraft more than 3,000 pounds maximum certificated gross take-off weight. As with all property, the assessment date is January 1. Aircraft that falls below the weight limit is valued and assessed at the local level.

The State Tax Commission utilizes various publications to arrive at the market value for the airline's aircraft. These publications include:

- Airliner Price Guide
- Aircraft Bluebook-Price Digest

1. Each airline reports their aircraft that serves Missouri and the State Tax Commission then determines the market value of their fleets. Each type of aircraft is valued and then all of the aircraft values are summed to arrive at the total market value of the fleet.

After the State Tax Commission determines the market value of the airline's fleets serving Missouri, allocation factors for the state must be determined. The allocation factor for a fleet's market value is based on the prior year's ratio of actual miles flown within the state to the total mileage of the aircraft. An allocation factor is then applied to each fleet's market value. The allocated market values of all fleets are summed to determine Total Missouri Allocated Market Value.



An assessment level of 33 1/3% for personal property is then applied to the Total Missouri Allocated Market Value for the aircraft to arrive at the assessed valuation for the state. The assessed value is then apportioned throughout the state on the basis of arrivals and departures within each county. The assessed values by county are certified to the respective counties in the state.

2. The State Tax Commission may also assess the valuation of aircraft fully equipped for flight and of more than 3,000 pounds maximum certified gross take-off weight ("commercial aircraft"). The owner of such aircraft, upon the return of the personal property list, must notify the county assessor that they are making a claim of "commercial aircraft". The information necessary to assess these aircraft must be collected from the taxpayer by the assessor. This information shall be provided to the State Tax Commission by May 1. The value placed on these aircraft by the State Tax Commission is allocated to the State of Missouri based on the prior year's ratio of actual miles flown within the state to the total mileage of the aircraft. The assessed value is certified to the respective county. Any taxpayer disagreeing with the assessment may appeal directly to the State Tax Commission by August 15 of the tax year without first appealing to the local Board of Equalization.

### **3.2 PRIVATE CAR COMPANIES**

A private car company owns and/or leases rolling stock and does not own, control or lease track or trackage rights. This rolling stock (railcars) is the property which is subject to the ad valorem tax.

Private car companies' assessed values are certified to the Missouri Department of Revenue for billing and central collection. The taxes are collected by the Director of Revenue, less one percent for the cost of collection which is deposited in the state's general revenue fund and six-tenths of one percent of the fund is transferred to the blind pension fund. The remaining funds are apportioned to the counties in the state and placed in the "County Private Car Tax Trust Fund". "The apportionment is based upon the ratio of the total track mileage of railroads which transport private car traffic within each county to the aggregate total of the state

The county upon receipt of the taxes from the director apportions seventy percent of the revenues received to the county's school districts using the same basis of distribution as used in distributing

receipts from the average school tax rate for that year, and the remaining thirty percent to the county general revenue fund.

### 1. Valuation and Assessment

According to Section 137.022, RSMo, "the equipment owned by said companies known as **"flanged wheel equipment"** shall be assessed by the state tax commission and shall be taxed in the manner of railroads, as provided in chapter 151, RSMo." Presently, the State Tax Commission determines the market value of the railroad's property based on the Unit Rule. This approach utilizes the three indicators of value, which are cost, market and income. Regarding the private car companies, the cost approach is the only indicator utilized due to the limited information provided and the number of companies operating within the state.

As with the railroads, the original cost at acquisition is the starting point in the valuation process. This cost is then depreciated at an annual rate to determine the depreciated value. The depreciation schedule adopted for the private car industry measures all forms of depreciation and obsolescence, which are physical, functional and economic. The depreciation rate used for the railroad industry only measures the physical deterioration with the **"Best of the Best"** method measuring the functional and economic obsolescence inherent in the property. Following is the schedule adopted for the private car industry:

<u>Year of Acquisition</u>	<u>Percent Good</u>
Current	100%
1st Preceding	90%
2nd Preceding	80%
3rd Preceding	70%
4th Preceding	60%
5th Preceding	50%

6th Preceding	40%
7th Preceding and Prior	30%

This depreciated cost is considered as the "**market**" value of the railcars. To test the validity of this market indicator, the State Tax Commission also valued selected private car companies' railcars using the method employed for the railroad industry and arrived at approximately the same results as the above depreciation schedule. This market value is then multiplied by the level of assessment of 33 1/3% to arrive at the assessed value of the property.

## 2. Allocation

For the private car industry, the Tax Commission relies on a time factor for their allocation to Missouri. This method determines the maximum number of days in which the railcars of the private car company could travel within a year by multiplying the total number of cars by 365 days. To arrive at the number of days the railcars spend within Missouri, the total number of miles within the state will be divided by the "**typical**" number of miles per day within the state. The typical number of Missouri miles within a day will be based on "**time studies**" of the private car industry which are periodically reviewed by the Commission.

### 3.3 IMPORTANT DATES TO REMEMBER FOR ASSESSOR'S OFFICE

#### April:

- 1<sup>st</sup>: Company files Schedules 14, 15, and 16 with the Assessor;
- 15<sup>th</sup>: Company files Schedule 13 with the Clerk; and
- 20<sup>th</sup>: Assessor's files certified Schedules 14, 15, and 16 with Clerk, Company and STC

#### May:

- 1<sup>st</sup>: Company files Schedule 12 with STC;
- 1<sup>st</sup>: Deadline for aircraft owners notify Assessor of claim of "commercial aircraft" and desire to file with STC;
- 15<sup>th</sup>: Clerk files certified Form 40 and Schedule 13's with STC; and
- 31<sup>st</sup>: Value estimation of Rural Electric Cooperatives

**June:**

- 1<sup>st</sup>: STC certifies aircraft values; and
- End of month: STC certifies centrally assessed railroad and utility company values

**July:**

- Company contact report and tax district usage reports are available and distributed to Clerks
- Deadline for appeals from centrally assessed railroad and utility companies

**August 15:**

- Aircraft appeals due

**September 1:**

- Deadline for STC to accept aircraft valuation request or correct values

**August – September:**

- Private Car valuations performed and certified

**October:**

- Department of Revenue issues bills to private car companies

**December:**

- Clerks identify changes in taxing jurisdictions

**3.4 Forms**

- Schedule 4 – Mileage of Line located in each county
- Schedule 13 – County apportionment – number of miles in each taxing jurisdiction
- Schedule 14 – Local assessments
- Schedule 15 – Locally assessed real estate
- Schedule 17 – Distributable Real Property
- Forms 12/20/20A/30/50 – Contact information for companies
- Form 40 – County certification of locally assessed values and county apportionment of state assessed companies

**Centrally Assessed Railroad and Utility Company Forms to Assessor:**

Schedule 14 Local Assessment, Schedule 15 Real Estate Information, Schedule 16 Motor Vehicle Information are due from the Company to the Assessor's Office by **April 1**. Railroad and utility companies should deliver these forms to the assessor's office by this date, completed up to the columns for market value and assessment. Schedule 17 Distributable Real Property Owned in Fee, when applicable, may be requested from the railroad and utility company.

**Local Assessment Forms Due to the County Clerk, Company and State Tax Commission:**

The assessor is required to certify the true market value and assessment of all locally assessed railroad and utility property of centrally assessed companies. The certification is completed by signing the Schedule 14 and delivering Schedule 14, Schedule 15, Schedule 16, and Schedule 17 to the county clerk, the railroad or utility company and Original Assessment Section of the State Tax Commission by **April 20**.

**Aircraft Assessment:**

Aircraft owners of commercial aircraft (aircraft fully equipped for flight and of more than 3,000 pounds maximum certified gross take-off weight) shall notify the assessor's office of their claim of commercial aircraft to be state assessed. This information shall be provided to the State Tax Commission by **May 1**.



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#### 4.0 ASSESSMENT RATIO STUDIES

The assessor has the difficult task of preparing an annual assessment roll that accurately reflects the value of all taxable property within the jurisdiction. The assessor is charged with valuing real property (with the exception of agricultural land) at market value.

##### **Market Value Definition:**

Section 137.115, RSMo, requires that property be assessed based upon its true value in money which is defined as the price a property would bring when offered for sale by one willing or desirous to sell and bought by one who is willing or desirous to purchase but who is not compelled to do so (1). True value in money is defined in terms of value in exchange and not value in use (2). It is the fair market value of the subject property on the valuation date (3). Market value is the most probable price in terms of money which a property should bring in competitive and open market under all conditions requisite to a fair sale, the buyer and seller, each acting prudently, knowledgeable and assuming the price is not affected by undue stimulus.

Implicit in this definition are the consummation of a sale as of a specific date and the passing of title from seller to buyer under conditions whereby:

1. Buyer and seller are typically motivated.
2. Both parties are well informed and well advised, and both acting in what they consider their own best interests.
3. A reasonable time is allowed for exposure in the open market.
4. Payment is made in cash or its equivalent.
5. Financing, if any, is on terms generally available in the Community at the specified date and typical for the property type in its locale.
6. The price represents a normal consideration for the property sold unaffected by special financing amounts and/or terms, services, fees, costs, or credits incurred in the transaction (4).

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1 *St. Joe Minerals Corp. v. State Tax Commission*, 854 S.W.2d 526, 529 (Mo. App. E.D. 1993); *Missouri Baptist Children's Home v. State Tax Commission*, 867 S.W.2d 510, 512 (Mo. banc 1993)

2 *Daly v. P. D. George Company, et al*, 77 S.W.3d 645, 649 (Mo. App E.D. 2002), citing, *Equitable Life Assurance Society v. STC*, 852 S.W.2d 376, 380 (Mo. App. 1993); citing, *Stephen & Stephen Properties, Inc. v. STC*, 499 S.W.2d 798, 801-803 (Mo. 1973)

3 *Hermel, Inc. v. STC*, 564 S.W.2d 888, 895 (Mo. banc 1978); *Chicago, Burlington & Quincy Railroad Co. v. STC*, 436 S.W.2d 650, 656 (Mo. 1968); *May Department Stores Co. v. STC*, 308 S.W.2d 748, 759 (Mo. 1958)

4 *Real Estate Appraisal Terminology, Society of Real Estate Appraisers, Revised Edition, 1984*; See also, *Real*



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The property tax system is fair and equitable when the assessor produces accurate assessments. The accuracy of appraisals that form the basis for assessments is, therefore, of great concern to the assessor, property owners, political subdivisions (taxing entities), elected officials, and the State Tax Commission. The State Tax Commission Ratio Studies are the fundamental instruments used to measure the accuracy of real property assessments.

#### 4.1 MISSOURI RATIO STUDY'S REQUIREMENTS & CONCEPTS

Ratio studies determine the level and uniformity of assessment by comparing the assessor's value to a market value proxy. As of January 1, 2011 there were approximately 3.28 million parcels of real estate within the State of Missouri. As it is not feasible to test the relationships that exist between the assessor's value and market value for every taxable parcel in the state, the Commission employs a sampling process that compares a statistically valid number of parcels from each county in order to make statistical inferences about the total population of parcels in each county. In a ratio study, the county's assessment is either compared to the sale price for recent transactions (sales ratio study) or the county's assessment is compared to an independent appraisal (appraisal ratio study.) Both are recognized procedures to determine if property tax assessments are fair and equitable.

Ratio studies have a variety of uses. At the local level, they can be used to:

1. Monitor assessment performance and thereby identify potential problems with assessment procedures;
2. Improve assessment equity by monitoring the overall level of assessment and the degree of dispersion;
3. Indicate the need for a general reappraisal, or a selective reappraisal of certain property types, groups or neighborhoods; and
4. Assist in market analysis.

At the state level, they can be used:

1. To monitor assessment accuracy;
2. For inter-county and intra-county equalization;
3. To distribute intergovernmental funds, such as the distribution of state funds to local school districts;
4. To determine the need for a general reassessment;
5. To establish priorities for reappraisal of selected groups of properties;
6. To compute an estimate of the market value of taxable property within a jurisdiction;
7. To adjust appraisals for centrally assessed properties; and
8. To evaluate claims of discrimination within the assessment function.

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*Estate Valuation in Litigation, J. D. Eaton, M.A.I., American Institute of Real Estate Appraisers, 1982, pp. 4-5;*  
*Property Appraisal and Assessment Administration, International Association of Practice, Glossary.*



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The end product of a ratio study is that the descriptive statistics allow the analyst to summarize the status of the valuations and to draw conclusions about the tested population.

## 1. BACKGROUND

As early as 1955 the general assembly created statutes that required the State Tax Commission to determine the general level of assessment in each of the state's 114 counties and the City of St. Louis. Over the years, a number of methods have been employed to establish assessment ratios through varying endeavors and with varied results.

In 1975, the State Auditor conducted a statewide sale ratio study to measure the assessment levels of the 114 counties and the City of St. Louis. The study showed a range of ratios from a low of 6.2% to a high of 46.7%. The problems inherent in a one-year sale ratio study subjected the study to considerable criticism; but if nothing else, the report served to point out the fact that there were obviously large disparities among the assessment levels of the counties. As a result of these studies, the legislature directed the Commission to formulate a supportable program to be used to measure the accuracy of the assessment process throughout the state.

In 1977, the Commission contracted with the Arthur Young & Company to develop a methodology for conducting statistically valid ratio studies and assisting the Commission in fulfilling its responsibilities and objectives of monitoring the property tax system.

In 1979, the State Supreme Court, in *Cassily vs. Riley*, ordered the Commission to conduct a statewide reassessment. Subsequently each county was directed to plan and implement a reassessment program in order to eliminate the deficiencies in the assessment process.

In 1985, the Commission contracted with the University of Missouri-Columbia to review the Commission's ratio study methodology and to recommend changes. The analysis found the policies and procedures of the state's study to be consistent with accepted statistical practices. The policies, procedures, and methodology of conducting the studies were also found to be in compliance with the "Standard on Ratio Studies" as published by the International Association of Assessing Officers (IAAO).

In 2006, the Commission contracted with the IAAO to re-examine the policies, procedures and methodology of the Commission's ratio study and to recommend improvements that would allow the Commission to better evaluate the state's level of assessment and to provide improved guidance to county assessors to ensure that assessments remain current.

In 2007, based on the IAAO recommendations, the Commission began using sales ratio studies for residential property, including the Traditional Sales Study and the Progressive Hybrid Study.





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These sales ratio studies replaced the appraisal ratio studies in counties that showed quality sales databases, historically and prospectively.

#### **A. MISSOURI RATIO STUDY TECHNICAL ADVISORY GROUP**

The Missouri Ratio Study Technical Advisory Group (MRSTAG) was formed in 2010 to advise the Commission on its ratio study processes and procedures.

The purpose of the Missouri Ratio Study Technical Advisory Group is to review ratio study procedures, discuss relevant issues, and assist the State Tax Commission of Missouri with policies and procedures concerning the ratio study.

##### Committee Makeup:

The Missouri Ratio Study Technical Advisory Group is made up of individuals with a broad background in statistics, ratio studies, appraisal and assessment. The members are approved by the Commission.

The group is comprised of up to five (5) members, in addition to any STC members; one of the five members will be a sitting assessor as a representative of the Missouri State Assessors Association.

Ratio Study Management and the Ratio Study Statistician are permanent members of the committee; the Ratio Study Manager serves as Chair of the committee. Other STC personnel may participate in meetings when appropriate.

The members serve on the MRSTAG on a voluntary basis with no monetary benefit to any member. As of October 1, 2018, the Committee Members were:

***Dr. Elbert B. Whorton, Jr.***  
Univ. of Texas (retired); StatCom  
PhD Statistician

***Hon. Tom Schauwecker***  
Boone County Assessor  
MSAA Representative

***Dr. Thomas Hamilton***  
Roosevelt University  
PhD Real Estate and Urban  
Land Economics

***Ms. Kristen Solindas***  
MO State Tax Commission  
B.S. (Statistics); Statistician

***Anthony Sackey Kweku***  
MA Economics  
MO Certified Residential Appraiser

***Mr. Jeff Schmidt***  
MO State Tax Commission  
Local Assistance Asst. Mgr.

***Mrs. Jan Elliott, Chair***  
MO State Tax Commission  
Local Assistance Manager



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## 2. RESPONSIBILITIES AND OBJECTIVES

The State Tax Commission of Missouri, as the oversight agency of the assessment function in Missouri, is charged with the responsibility of monitoring the assessment accuracy in each of the 114 counties and the City of St. Louis. This is accomplished by a periodic Assessment Ratio Study.

The current analysis is based upon the accepted concepts for statistically valid studies.

- Sales studies measure marketable subsets of the entire population and are tested for reliability and adherence to professional standards.
- Appraisal studies employ a simple random, representative sample. The sampling methodology currently employed by the Commission identifies the population within each county and subclass. From this population, a random sample is drawn. Appraisals are then completed by the Commission's staff appraisers to estimate the Market Value for the property. Approximately 25 to 30 parcels are appraised in each subclass.
- Hybrid studies combine sales and appraisals for overall results.

The objective is to accurately estimate the overall level and uniformity of assessment for each specified subclass of property to determine compliance with constitutional, statutory, and departmental rule requirements.

## 3. RATIO STUDY CYCLE

In 1989, the Commission implemented a two (2) year ratio study cycle in place of an annually conducted study; previously, all subclasses in each of the 115 jurisdictions were completed each year. A two-year ratio study cycle provides several benefits as compared to an annual cycle:

- a. It balances the appraisal workload over a longer time period thereby improving the work product. The appraisers have more time to research the market for the data necessary to support their value conclusions.
- b. The supplementary time allows for conducting additional market studies (land analysis studies, cost studies, depreciation studies, etc.). These and other in-depth studies are most helpful in the proper valuation of real property.
- c. It allows an appropriate amount of time to perform sales studies and allows for control groups of sales occurring after the date of value (January 1, odd year).

Beginning with the 2001 cycle, agricultural studies were scheduled for completion every six years. That is, one-third of the agricultural subclass studies were scheduled for completion during each two year cycle. This practice was deemed necessary due to budget and staffing reductions. Then,



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in the 2007 cycle, Agricultural ratio studies were suspended altogether due to another round of budget and staff reductions. The reasoning in the Commission's decision lies in the nature of the agricultural assessment process.

Agricultural land is assessed based on "use value" not market value as are residential and commercial real estate. The grading and classification of agricultural land is based on observations of the topography, potential for flooding, tree cover and the quality and productivity of the underlying soil. The productivity rating for developing these classifications does not consider the market value of the land; therefore an increasing land value does not translate to an increase in land productivity. Since there is less likelihood of rapid changes in agricultural use value, the original decision to spread these studies over a longer time-frame was deemed reasonable. Paramount in the decision to suspend studies in 2007 was the stable nature of agricultural property productivity values with minimal changes over time, and consideration of the cost benefit analysis, wherein the required resources to do appraisal studies greatly exceeds any notable impact on the assessment process. Agricultural real property accounts for approximately 1.7% (as of 2010) of the total real property value in the state. While no Agricultural studies are currently planned, they can still be completed on an "as needed" basis when warranted. Additionally, agricultural values are monitored as part of the normal duties of the Local Assistance section, and are also tracked through year end reports supplied by the county which would indicate any significant changes requiring additional investigation and scrutiny.

For the 2009 ratio cycle, commercial studies were scheduled for completion every four years, with approximately half of the counties being completed in each two year ratio cycle. This practice was deemed necessary due to budget and staffing reductions. In making the decision to extend the time frame for measuring commercial assessments in all Missouri counties, particular scrutiny was given to the complexities and nuances of the commercial real estate market. It generally takes longer to recognize trends in commercial real estate due to the timing of leases and the overall scarcity of sales and income information available at any time, and historical information indicated that commercial assessments had far less variability between cycles than the residential subclass.

The State Tax Commission incurred additional budget and staffing reductions. Beginning with the 2015 commercial ratio cycle, seventy-five (75) counties will be completed on a four year ratio cycle with approximately half of the counties being completed in each two year ratio study cycle. Forty (40) counties will be on a six year process with approximately one-third of the counties being completed in each two year ratio study cycle. Counties that are on a six year rotation will be monitored between studies by the Form 11 and 11A, County Index Study, Land Value Studies, Sales Analysis, and 30 commercial parcels to be reviewed by Assessment Representatives/Appraisers in the cycle a commercial ratio is not performed. Additional studies by the Assessment Representative/Appraisers may be conducted if deemed necessary.



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### 4. STATUTORY ASSESSMENT RATES

Once a property is valued by the county, the property's assessment is calculated. The assessment rates are statutorily set as follows:

Residential property assessments reflect 19% of the property's market value.

Agricultural property assessments reflect 12% of the property's production and/or market value.

Commercial property assessments reflect 32% of the property's market value.

These different assessment rates allocate the burden between the three subclasses of real property.

### 4.2 RATIO STUDY METHODOLOGY

A brief description of the various ratio studies conducted by the Commission follows. The Commission's studies use both sales and appraisals as proxies of market value. The Commission's Assessment Ratio Study follows the general guidelines and requirements set forth in the *Standard on Ratio Studies* published by the International Association of Assessing Officers.

#### 1. RESIDENTIAL RATIO STUDY

Residential assessments are tested every biennial reassessment (once every two years.) Market value is the basis of value for properties in the residential subclass. There are three types of studies used to determine the level and uniformity of assessment for residential property.

1. Traditional Sales Study – Valid sales representative of the population are used to measure fair market value for comparison to the county's assessed values.
2. Appraisal Study – Approximately 25 properties with a residential assessment are randomly selected and independently appraised for comparison to the county's assessed values.

#### 2. AGRICULTURAL RATIO STUDY

A random, independent Appraisal Study is the only method currently used by the Commission to determine the level of assessment for the agricultural subclass. Prior to the 2007 assessment cycle, Agricultural assessments were tested once every three biennial reassessments (once every six years.) Approximately 35 properties with an agricultural assessment were randomly selected and independently appraised for comparison to the county's assessed values.

Agricultural studies have been suspended since the 2007 assessment cycle. If future agricultural studies are performed, it is likely that the sample size would be between 20 to 30 properties as the



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STC updated its sample size requirements for appraisal studies in 2009.

### 3. COMMERCIAL RATIO STUDY

A random, independent Appraisal Study is the only method currently used by the Commission to determine the level of assessment for the commercial subclass. Approximately 30 properties with a commercial assessment are randomly selected and independently appraised for comparison to the county's assessed values.

#### 4.3 DATA REQUIREMENTS

In order to perform ratio study analyses of all 115 assessment jurisdictions, the Commission must collect enough information from the counties to facilitate valid and reliable ratio study results. The first step in the ratio study process is to collect information concerning the real estate properties and their assessed values so that they can be analyzed and measured.

The Commission makes a universal data request that is the same for each assessment jurisdiction for each ratio study cycle. Generally, the Commission asks for the following data sets:

- Assessment roll
- Building Structure database
- Sales database

The Commission requires the requested information be submitted in a computer database format. The objective for this requirement is to make the collection of data as efficient as possible.

These data sets are described in more detail below.

#### 1. ASSESSMENT ROLL

An electronic version of the assessment roll is requested from each county. The information request sent to the county assessor is shown in **Exhibit 4-1**.



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#### Exhibit 4-1

#### Requested Database Fields (*2015 cycle example*)

*Please include a data dictionary listing of all codes and the definitions that these codes represent for all variables in any database. Please include column headers.*

Field Name	Format	Contents
UPN	Text	Unique Identifier for a parcel or property. The UPN can be masked with decimals and hyphens or just a string of numbers and letters.
RES15	Numeric	The Residential Assessment Value for the 2015 Tax Year
AGR15	Numeric	The Agriculture Assessment Value for the 2015 Tax Year
COM15	Numeric	The Commercial Assessment Value for the 2015 Tax Year
RES14	Numeric	The Residential Assessment Value for the 2014 Tax Year
AGR14	Numeric	The Agriculture Assessment Value for the 2014 Tax Year
COM14	Numeric	The Commercial Assessment Value for the 2014 Tax Year
SITUSADD	Text	Situs Address (If unavailable, do not include mailing address)
SITUSCITY	Text	Situs City (If unavailable, do not include mailing city)
SITUSSTATE	Text	Situs State (If unavailable, do not include mailing state)
SITUSZIP	Text	SitusZip (If unavailable, do not include mailing zip)
LEGAL	Text	Legal Description
LOT	Text	Lot
BLO	Text	Block
SUB	Text	Subdivision
SEC	Text	Section
TWN	Text	Township
RNG	Text	Range
LANDUSE	Text	Land Use such as improved, vacant, etc
SCHOOLDIST	Text	School District Code (Include a coding key file) If school district code is unavailable, include tax code with a coding key.
GEOGRAPHIC	Text	County's Preferred Geographic Stratification Variable. If the school district variable is not a preferred way to segment the county, then a different variable, such as zones or areas, should be included.
ACRES	Text	Acreage



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The following fields, shown in **Exhibit 4-2**, are requested with either the assessment roll or the building structure database, if available:

#### Exhibit 4-2

*Please include a data dictionary listing of all codes and the definitions that these codes represent for all variables in any database. Please include column headers.*

LOTFRONT	Text	Lot Front Length
LOTDEPTH	Text	Lot Depth Length
ROOMS	Numeric	The number of above grade rooms
BED	Numeric	The number of above grade bedrooms
BATH	Numeric	The number of above grade bathrooms
BSMNTSIZE	Text	Indicate the size of the basement (Sq Ft, full, partial, none, 0, etc, or other code)
BSMNTFIN	Text	Indicate the finish of basement (None, partial, finished, etc, or other code; include BR/Bath counts if available and not reported above)
GARAGETYPE	Text	Indicate the type of garage (carport, attached, detached, none, etc, or other code)
GARAGECNT	Text	The number of cars for the garage

(If the county cannot delineate bedrooms and bathrooms for above grade vs. below grade, then the total number of bedrooms and bathrooms should be provided)

#### **Requested Database Formats**

The Commission prefers assessment roll data in a Microsoft Excel file. If that option is not available, then the preferred method is through a pipe “|” delimited file. Text files with a comma delimiter are acceptable, but there are often issues importing the large databases this way. The Commission also requests any codes used in the school district or geographic stratification variable.

## **2. BUILDING STRUCTURE DATABASE**

A building structure database is requested separately from the assessment roll to avoid confusion on defining a year built or living area for a property that has more than one dominant structure. The State Tax Commission’s procedure involves defining improvements that are primary structures. These improvements often include single-family, multi-family, mobile homes, etc. If more than one of these primary structures exists on a parcel, then the information for that one parcel is not included in the year built or living area analysis. For example, a property that sells



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with two or more primary structures is used in the overall statistics and the geographic location stratification, but not in the year built or improved area stratification.

#### Exhibit 4-3

#### **Requested Building Structure Database Fields**

*Please include a data dictionary listing of all codes and the definitions that these codes represent for all variables in any database. Please include column headers.*

Field Name	Format	Contents
UPN	Text	Unique Identifier for a parcel or property. The UPN can be masked with decimals and hyphens or just a string of numbers and letters
STRUCTURE	Text	A code that can refer to the type of structure. (Single Family, Duplex, Garage, Utility, etc.)
STYLE	Text	Descriptive Property Features (1 Story, 2 Story, Split Level, etc)
YRBLT	Numeric	The year the structure was built
AREA	Numeric	The size of the property. Gross living area is preferred if available. Otherwise, include base area. Adjusted area is not desired.

For some counties, living area may not be an available field. In such a case, reporting base area is preferred. Adjusted area is not desired.

The building structure information will be filtered to include only dominant structures. Parcels with one dominant structure will have their detail information paired to the assessment roll for analysis.

#### **Requested Database Formats**

The Commission prefers building data in a Microsoft Excel file. If that option is not available, then the preferred method is through a pipe “|” delimited file. Text files with a comma delimiter are acceptable, but there are often issues importing the large databases this way. The Commission also requests any codes used in the school district or geographic stratification variable.

### **3. SALES DATABASE**

A sales database is requested from all counties. The sales database deadline for submission is around April 15th of the even numbered year subsequent to the assessment year. The database should consist of sales between January 1 of the even numbered year preceding the assessment





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year and December 31 of the assessment year (odd numbered year). The minimum fields that should be included are parcel number, sale price, sale date, and validity codes (if applicable). As an example, for the 2015 assessment year, the deadline for submission of the sales database is April 15, 2016. The database will consist of sales between January 1, 2014 and December 31, 2015.

#### **A. Sales Validation and Verification**

The Commission generally adheres to the IAAO Standard on Ratio Studies in performing ratio studies for each county. The Commission must be able to verify the county's sales follow IAAO guidelines for validation and verification before sales can be utilized for a sales study. A sales survey is required from each county to verify sales validation and verification procedures.

The STC relies on the following IAAO standards and guidelines concerning the validation and verification of sales (all available at [www.iaao.org](http://www.iaao.org)):

- IAAO Standard on Ratio Studies (Appendix A)
- IAAO Standard on Verification and Adjustment of Sales
- IAAO Guide to Foreclosure-Related Sales and Verification Procedures

#### **Valid Sales**

Generally speaking, a valid sale is a transaction that reflects market value where a willing seller offers the property but is not obligated to sell it, and is bought by a person who is willing to purchase but is not forced to do so. A valid sale can also be described as a sale that meets the definition of a market value transaction.

#### **Invalid Sales**

##### **Sales Generally Invalid for Ratio Studies (from IAAO publications):**

- Sales involving government agencies and public utilities
- Sales involving charitable, religious, or educational institutions
- Sales involving financial institutions
- Sales between relatives or corporate affiliates
- Sales settling an estate
- Forced sales
- Sales of doubtful title



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#### Sales with Special Conditions

The IAAO requires these sales be used with caution and requires substantial verification before being used for ratio studies. DO NOT use these sales unless certain they are valid:

- Trades
- Partial interests
- Land contracts
- Incomplete or unbuilt common property
- Auctions

#### B. Requested Sales Database Fields

The fields shown in **Exhibit 4-4** are requested for residential sales ratio analysis:

##### Exhibit 4-4

*Please include a data dictionary listing all codes and the definitions that these codes represent for all variables in any database.*

Field Name	Format	Contents
UPN	Text	Unique Identifier for a parcel or property. The UPN can be masked with decimals and hyphens or just a string of numbers and letters.
Sale Price	Numeric	Sale Price; the proxy for market value between a willing buyer and a willing seller.
Sale Date	Date (mm/dd/yyyy)	The date of the transaction. The format can include month and year if the exact date is unknown.
Validation	Text	Any validation coding or key that determines if a sale was valid or invalid.

#### Requested Database Formats

The Commission prefers sales data in a Microsoft Excel file. If that option is not available, then the preferred method is through a pipe “|” delimited file. Text files with a comma delimiter are acceptable, but there are often issues importing the large databases this way.

Additionally, the Commission collects a copy of the county’s sales letter used to collect sales



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information. The Commission also prepares a sales survey that asks the county to explain how they comply with the IAAO guidelines on screening sales; this survey information is collected at the beginning of each ratio study cycle. This information is reviewed to ensure that proper sales screening and validation processes are being followed at the county level.

### 4. ONLINE DATA PROCESSES

To help counties save on costs, all requested material can be sent electronically through a File Transfer Protocol (FTP.) Links are available on the STC website at <http://stc.mo.gov/> and secure accounts are available to county officials.

#### 4.4 DATABASE PREPARATION

##### 1. COUNTY INFORMATION

An Incoming Data folder contains only the information received from the county; the Assessment Roll, the Building Structures database, and the Sales database.

- Assessment Roll – An electronic source that lists every parcel in the county with their descriptive information, as requested in the description above.
- Building Structure Databases – An electronic source that lists every improvement in the county.
- Sales Databases – An electronic source that lists the information collected by the assessor concerning sold properties.
- Codes – Any codes or data dictionaries received from the counties

##### 2. FORMATTING FILES

- The initial step for any file received is to format the file type and Uniform Parcel Number to be legible by any program utilized by the Commission. Additional steps may be needed to process the files since information and formats differ by county. Assessment totals from the received Assessment Roll are verified against the odd numbered year Form 11 and Form 11A to determine the totals per each subclass are accurate.
- Within the Building Structure database, non-residential structure codes, unnecessary fields, and duplicate parcels are removed.
- The formatted Assessment Roll is merged with the Building Structure Database via the Uniform Parcel Number.
- After formatting the Sales Database, the following steps occur:



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- Invalid sales are excluded
- Resales (properties that sell more than once) are identified.
- Duplicate sales (repeated records) are removed properly.
- If a property sells more than one time, then all sale prices must be within 5% of the minimum sale price, and the sale closest to the January 1<sup>st</sup> assessment date is used, discarding the others. Otherwise, all sales from that property are removed.
- New construction sales data is flagged for further analysis.
- Sale dates are categorized for the different stages of the quality testing.
- The formatted Sales Database is merged with the formatted and consolidated Assessment Roll/Building Structure Database file via the Uniform Parcel Number.

#### 4.5 RANDOM SAMPLING PROCESS

A formatted assessment roll is generated for the residential and commercial subclass. The file is sorted in Uniform Parcel Number order.

If the county identifies tax exempt properties in their database information, then the Commission will remove those parcels prior to sampling. If tax exempt properties are not identified by the county, then those properties will be omitted later in the process when identified by the statistician or the appraiser, but after the sampling procedure.

A random sample for each of the three subclasses is generated. Each property that has an assessment of the subclass being tested has an equal chance of selection. Approximately 25 (residential) or 30 (commercial) randomly selected properties will be appraised by an employee from the State Tax Commission.

#### 1. STRATIFIED RANDOM SAMPLING PROCESS FOR APPRAISAL STUDIES

Based on the assistance and recommendations of the MO Ratio Study Technical Advisory Group, the STC implemented stratified random sampling for appraisal studies in the 2011 cycle. The benefit of stratified random sampling is more stability in the random sampling process, which should benefit the overall ratio study analysis.

The stratification procedure is based on the *assessed value* of the parcel population for both the residential and commercial subclass. The parcel population is stratified into four quartiles as follows:

- 1<sup>st</sup> Quartile:* Low to Low/Middle value properties
- 2<sup>nd</sup> Quartile:* Low/Middle to Middle value properties



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*3<sup>rd</sup> Quartile:* Middle to Middle/High value properties  
*4<sup>th</sup> Quartile:* Middle/High to High value properties

The overall sample sizes for appraisal studies is as follows:

- 25 appraisals for residential studies
- 30 appraisals for commercial studies

Since the total number of samples is not divisible by four, for either residential or commercial appraisal studies, there will be slightly different numbers of samples pulled from each stratum (quartile) as shown below:

	<i>1st Quartile</i> # of samples	<i>2nd Quartile</i> # of samples	<i>3rd Quartile</i> # of samples	<i>4th Quartile</i> # of samples	<b>Total samples</b>
<b>Residential</b>	<b>6</b>	<b>6</b>	<b>7</b>	<b>6</b>	<b>25</b>
<b>Commercial</b>	<b>7</b>	<b>8</b>	<b>8</b>	<b>7</b>	<b>30</b>

Because there is one more sample in some strata than in others, the Commission is purposefully choosing to include more samples in the 2<sup>nd</sup> and 3<sup>rd</sup> quartiles (in the middle) rather than the 1<sup>st</sup> and 4<sup>th</sup> quartiles (low and high ends).

**The result is a completely random selection of samples for the appraisal ratio study.** Every parcel within each stratum (quartile), and subsequently every sample in the parcel population, has an equal chance of being selected for the ratio study.

Statistics will only be performed on the total number of samples and there will be no statistical analysis of any of the individual strata (quartiles).

Assessors should not notice any changes in State Tax Commission operations and will have no additional requirements to implement these new sampling procedures.

The following screenshots of fictitious data demonstrate how stratified random sampling is applied.



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Exhibit 4-5: Data received from a County:

	A	B	C	D
1	UPN	RES13	AG13	COM13
2	01-03.1-06-00.0-00-01.000	0	350	0
3	01-03.1-06-00.0-00-04.000	0	530	0
4	01-03.1-06-00.0-00-05.000	0	960	0
5	01-03.1-06-00.0-00-06.000	4480	4370	0
6	01-03.1-06-00.0-00-07.000	5420	1660	0
7	01-03.1-06-00.0-00-08.000	0	720	0
8	01-03.1-06-00.0-00-09.000	23280	3920	0
9	01-03.1-06-00.0-00-10.000	22140	100	0
10	01-03.1-06-00.0-00-12.000	4160	5680	0
11	01-03.1-06-00.0-00-13.000	30940	13900	0
12	01-03.1-06-00.0-00-14.000	0	870	0
13	01-03.1-06-00.0-00-15.010	19180	220	0
14	01-03.1-06-00.0-00-16.000	0	840	0
15	01-03.1-06-00.0-00-17.000	0	800	0
16	01-03.1-06-00.0-00-18.000	0	880	0
17	01-03.1-06-00.0-00-19.000	0	410	0
18	01-03.2-07-00.0-00-01.000	0	2660	0
19	01-03.2-07-00.0-00-01.010	0	480	0
20	01-03.2-07-00.0-00-02.000	0	670	0

Exhibit 4-6: Residential Assessment Roll includes all samples with a residential assessed value:

	A	B	C	D
1	UPN	RES13	AG13	COM13
2	01-03.1-06-00.0-00-06.000	4480	4370	0
3	01-03.1-06-00.0-00-07.000	5420	1660	0
4	01-03.1-06-00.0-00-09.000	23280	3920	0
5	01-03.1-06-00.0-00-10.000	22140	100	0
6	01-03.1-06-00.0-00-12.000	4160	5680	0
7	01-03.1-06-00.0-00-13.000	30940	13900	0
8	01-03.1-06-00.0-00-15.010	19180	220	0
9	01-03.2-07-00.0-00-03.000	6120	1730	0
10	01-03.2-07-00.0-00-04.000	36060	5160	0
11	01-03.2-07-00.0-00-05.000	3280	2890	0
12	01-04.0-18-00.0-00-05.000	1240	940	0
13	01-04.0-18-00.0-00-06.000	1240	2380	0
14	01-04.0-18-00.0-00-08.000	10430	3980	0
15	01-04.0-18-00.0-00-08.010	5330	0	0
16	01-04.0-19-00.0-00-03.000	9590	1780	0
17	01-04.0-19-00.0-00-07.000	10710	2190	0
18	01-04.0-19-00.0-00-16.000	1240	3750	0
19	01-09.0-30-00.0-00-01.000	22040	8170	0
20	01-09.0-30-00.0-00-02.000	20200	10400	0



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Exhibit 4-7: Using Excel, insert a column for random numbers:

	A	B	C	D	E
1	RandomNumber	UPN	RES13	AG13	COM13
2	3715.94	01-03.1-06-00.0-00-06.000	4480	4370	0
3	3749.57	01-03.1-06-00.0-00-07.000	5420	1660	0
4	4281.89	01-03.1-06-00.0-00-09.000	23280	3920	0
5	2954.32	01-03.1-06-00.0-00-10.000	22140	100	0
6	5687.02	01-03.1-06-00.0-00-12.000	4160	5680	0
7	1470.01	01-03.1-06-00.0-00-13.000	30940	13900	0
8	1611.02	01-03.1-06-00.0-00-15.010	19180	220	0
9	736.59	01-03.2-07-00.0-00-03.000	6120	1730	0
10	587.02	01-03.2-07-00.0-00-04.000	36060	5160	0
11	3474.16	01-03.2-07-00.0-00-05.000	3280	2890	0
12	421.39	01-04.0-18-00.0-00-05.000	1240	940	0
13	1772.06	01-04.0-18-00.0-00-06.000	1240	2380	0
14	117.24	01-04.0-18-00.0-00-08.000	10430	3980	0
15	1144.71	01-04.0-18-00.0-00-08.010	5330	0	0
16	4625.62	01-04.0-19-00.0-00-03.000	9590	1780	0
17	15.92	01-04.0-19-00.0-00-07.000	10710	2190	0
18	5160.17	01-04.0-19-00.0-00-16.000	1240	3750	0
19	1768.2	01-09.0-30-00.0-00-01.000	22040	8170	0
20	3412.53	01-09.0-30-00.0-00-02.000	20200	10400	0

Exhibit 4-8: Add columns before the RandomNumber column, and re-label as needed. The columns needed for the random sampling are, in order: Cnty ID, Sample, Book, Control, UPN, Res13, AGR13, COM13, Name1, Name2, SitusAddress1, SitusAddress2, SitusAddress3, SitusCity, Section, Township, Range, Acres, Lotsize, Legal.

	A	B	C	D	E	F	G	H
1	CntyID	Sample	Book	Control	UPN	RES13	AG13	COM13
2	137				3715.94 01-03.1-06-00.0-00-06.000	4480	4370	0
3	137				3749.57 01-03.1-06-00.0-00-07.000	5420	1660	0
4	137				4281.89 01-03.1-06-00.0-00-09.000	23280	3920	0
5	137				2954.32 01-03.1-06-00.0-00-10.000	22140	100	0
6	137				5687.02 01-03.1-06-00.0-00-12.000	4160	5680	0
7	137				1470.01 01-03.1-06-00.0-00-13.000	30940	13900	0
8	137				1611.02 01-03.1-06-00.0-00-15.010	19180	220	0
9	137				736.59 01-03.2-07-00.0-00-03.000	6120	1730	0
10	137				587.02 01-03.2-07-00.0-00-04.000	36060	5160	0
11	137				3474.16 01-03.2-07-00.0-00-05.000	3280	2890	0
12	137				421.39 01-04.0-18-00.0-00-05.000	1240	940	0
13	137				1772.06 01-04.0-18-00.0-00-06.000	1240	2380	0
14	137				117.24 01-04.0-18-00.0-00-08.000	10430	3980	0
15	137				1144.71 01-04.0-18-00.0-00-08.010	5330	0	0
16	137				4625.62 01-04.0-19-00.0-00-03.000	9590	1780	0
17	137				15.92 01-04.0-19-00.0-00-07.000	10710	2190	0
18	137				5160.17 01-04.0-19-00.0-00-16.000	1240	3750	0
19	137				1768.2 01-09.0-30-00.0-00-01.000	22040	8170	0
20	137				3412.53 01-09.0-30-00.0-00-02.000	20200	10400	0



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**Exhibit 4-9:** Create four tabs at the bottom of the page, TabA, TabB, TabC, and TabD.

49	1			4,887.42	02-07.0-35-000-00-02.000	40	5,290	0
50	1			7,160.16	02-07.0-35-000-00-08.000	3,340	5,090	0
51	1			1,188.87	02-07.0-35-000-00-05.000	2,720	2,540	0
CountySalesData TabA TabB TabC TabD								
Ready								

**Exhibit 4-10:** Sort the data by the RES13 column.

	A	B	C	D	E	F	G	H
1	CntyID	Sample	Book	Control	UPN	RES13	AG13	COM13
2	137				0.33 15-03.0-08-00.0-00-08.000	3650	0	0
3	137				1.43 02-07.0-26-00.0-00-03.030	12000	150	0
4	137				1.47 06-03.0-06-00.0-00-12.010	3430	240	0
5	137				1.84 22-04.1-17-00.0-00-05.000	25250	1680	0
6	137				2.21 14-04.0-20-00.0-00-11.000	5720	2670	0
7	137				3.53 03-08.0-33-00.0-00-09.000	31360	1750	0
8	137				3.65 06-01.0-12-00.0-00-06.000	3620	0	16470
9	137				6.15 11-03.1-06-00.0-00-06.000	11600	1650	12340
10	137				6.17 10-09.0-30-00.0-00-24.000	9970	0	0
11	137				6.66 15-03.0-06-04.2-18-05.000	11060	0	3380
12	137				7.54 03-07.0-26-04.0-02-14.000	2970	0	0
13	137				8.29 10-08.0-27-00.0-00-21.000	9680	100	0
14	137				8.36 18-04.0-19-00.0-00-01.000	12200	1780	0
15	137				8.63 15-03.0-05-02.2-01-01.000	16910	0	0
16	137				11.37 10-01.1-02-00.0-00-21.020	1720	0	0
17	137				11.71 14-03.0-08-00.0-00-22.000	9780	0	0
18	137				12.2 22-04.2-19-00.0-00-06.000	26650	0	0
19	137				13.76 15-03.0-05-02.2-09-01.000	10200	0	0
20	137				14.14 20-09.0-29-00.0-00-05.000	1100	1060	0

**Exhibit 4-11:** Sort the data by the Control column (formerly the RandomNumber column).

	A	B	C	D	E	F	G	H
1	CntyID	Sample	Book	Control	UPN	RES13	AG13	COM13
2	137				0.33 15-03.0-08-00.0-00-08.000	3650	0	0
3	137				1.43 02-07.0-26-00.0-00-03.030	12000	150	0
4	137				1.47 06-03.0-06-00.0-00-12.010	3430	240	0
5	137				1.84 22-04.1-17-00.0-00-05.000	25250	1680	0
6	137				2.21 14-04.0-20-00.0-00-11.000	5720	2670	0
7	137				3.53 03-08.0-33-00.0-00-09.000	31360	1750	0
8	137				3.65 06-01.0-12-00.0-00-06.000	3620	0	16470
9	137				6.15 11-03.1-06-00.0-00-06.000	11600	1650	12340
10	137				6.17 10-09.0-30-00.0-00-24.000	9970	0	0
11	137				6.66 15-03.0-06-04.2-18-05.000	11060	0	3380
12	137				7.54 03-07.0-26-04.0-02-14.000	2970	0	0
13	137				8.29 10-08.0-27-00.0-00-21.000	9680	100	0
14	137				8.36 18-04.0-19-00.0-00-01.000	12200	1780	0
15	137				8.63 15-03.0-05-02.2-01-01.000	16910	0	0
16	137				11.37 10-01.1-02-00.0-00-21.020	1720	0	0
17	137				11.71 14-03.0-08-00.0-00-22.000	9780	0	0
18	137				12.2 22-04.2-19-00.0-00-06.000	26650	0	0
19	137				13.76 15-03.0-05-02.2-09-01.000	10200	0	0
20	137				14.14 20-09.0-29-00.0-00-05.000	1100	1060	0





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**Exhibit 4-12:** Calculate how many records for each tab. In a Residential Study, Tabs A, B and D will need 6/25 of the total, while Tab C will need 7/25 of the total. (For Commercial studies, tabs A and D would be 8/30 of the total, and tabs B and C would be 7/30 of the total.) In this example, with 9349 sales, tabs A, B and D each have 2244 sales, while tab C has 2618 sales.

9347	1		1,151.53	13-05.0-15-002-01-17.000	249,370	0	0
9348	1		3,959.11	13-02.0-04-1.1-04-14.000	275,510	0	0
9349	1		2,704.01	13-05.0-16-004-01-01.000	306,600	0	0
9350	1		8,555.93	13-03.0-08-001-06-07.000	351,820	0	0
9351					2243.76		
9352					=7/25*9349		

CountySalesData TabA TabB TabC TabD

Edit

**Exhibit 4-13:** Under the Sample column on each tab, enter the sample number. Tab A will be 1-6, Tab B will be 7-12, Tab C will be 13-19, and Tab D will be 20-25. (Commercial will be 1-7, 1-8, 1-8 and 1-7, respectively.) After the samples, enter the alternate sample IDs, A1-A5 for tab A, B1-B5 for tab B, and so on.

	A	B	C	D	E	F	G	H
1	CntyID	Sample	Book	Control	UPN	RES13	AG13	COM13
2	137	1		0.33	15-03.0-08	3650	0	0
3	137	2		1.43	02-07.0-26	12000	150	0
4	137	3		1.47	06-03.0-06	3430	240	0
5	137	4		1.84	22-04.1-17	25250	1680	0
6	137	5		2.21	14-04.0-20	5720	2670	0
7	137	6		3.53	03-08.0-33	31360	1750	0
8	137	A1		3.65	06-01.0-12	3620	0	16470
9	137	A2		6.15	11-03.1-06	11600	1650	12340
10	137	A3		6.17	10-09.0-30	9970	0	0
11	137	A4		6.66	15-03.0-06	11060	0	3380
12	137	A5		7.54	03-07.0-26	2970	0	0
13	137			8.29	10-08.0-27	9680	100	0
14	137			8.36	18-04.0-19	12200	1780	0
15	137			8.63	15-03.0-05	16910	0	0
16	137			11.37	10-01.1-02	1720	0	0
17	137			11.71	14-03.0-08	9780	0	0
18	137			12.2	22-04.2-19	26650	0	0
19	137			13.76	15-03.0-05	10200	0	0
20	137			14.14	20-09.0-29	1100	1060	0



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**Exhibit 4-14:** Between the samples and the alternates, insert a line and shade it black.

	A	B	C	D	E	F	G	H
1	CntyID	Sample	Book	Control	UPN	RES13	AG13	COM13
2	137	1		0.33	15-03.0-08	3650	0	0
3	137	2		1.43	02-07.0-26	12000	150	0
4	137	3		1.47	06-03.0-06	3430	240	0
5	137	4		1.84	22-04.1-17	25250	1680	0
6	137	5		2.21	14-04.0-20	5720	2670	0
7	137	6		3.53	03-08.0-33	31360	1750	0
8								
9	137	A1		3.65	06-01.0-12	3620	0	16470
10	137	A2		6.15	11-03.1-06	11600	1650	12340
11	137	A3		6.17	10-09.0-30	9970	0	0
12	137	A4		6.66	15-03.0-06	11060	0	3380
13	137	A5		7.54	03-07.0-26	2970	0	0
14	137			8.29	10-08.0-27	9680	100	0
15	137			8.36	18-04.0-15	12200	1780	0
16	137			8.63	15-03.0-05	16910	0	0
17	137			11.37	10-01.1-02	1720	0	0
18	137			11.71	14-03.0-08	9780	0	0
19	137			12.2	22-04.2-15	26650	0	0
20	137			13.76	15-03.0-05	10200	0	0

#### 4.6 RESIDENTIAL SALES STUDY PROCEDURES

In a Traditional Sales Study, the county's values are compared against sales prices of properties that have occurred within specific time frames. Each comparison of the county's value on a particular parcel as compared to the actual sale price results in a ratio. Statistical analyses are then performed on the ratios that occur from all sales within the specified time frame as compared to the county's values. Currently, the Commission only performs sales studies on residential property.

The Commission attempts to perform a Traditional Sales Study in every county for residential property. Appraisals are only attempted when there are insufficient numbers of sales to reach a valid sample size for a sales study and/or the county fails the sales Reliability Test (i.e. the sales are not representative of the county, sales chasing issues may exist, etc.). The Traditional Sales Study is the most effective and efficient method available to the Commission for performing ratio studies of residential property and provides the most meaningful results for county assessors.

One of the challenges of the Traditional Sales Study is that there is no control over how many homes sells in any given county or where the sales are located within any county. Thus, it is not always possible to obtain a sampling of properties that is representative of the overall population when only utilizing sales information. Missouri has had good results with Traditional Sales Studies, but because they cannot be performed in all counties, the Commission has to rely on Appraisal Studies for residential property in some counties.

Another challenge of the Traditional Sales Study is that not all sales are known to the assessor. Of



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Missouri's 115 assessment jurisdictions, only four of the jurisdictions have ordinances or rules in place that require the recordation of sales price information on all real estate transactions. For the rest of the jurisdictions in the state, the assessors collect sales data by relying on property owners to voluntarily return sales questionnaires and report the sale price information. The success rate of assessors in obtaining sales information varies from county to county. The more sales that are available, the more likely the county will qualify for a Traditional Sales Study.

Whenever sales are used in ratio studies, the Commission performs a Reliability Test to ensure that the data and sales utilized in a Traditional Sales Study will yield valid and reliable results. If the county data passes the Reliability Test, then the Traditional Sales Study is attempted.

### 1. RELIABILITY TEST

A Reliability Test is an analysis of the information received from the county to verify if the information will result in valid and reliable results. Once the county is identified, historical information is inputted, including the county's sales disclosure history. A brief explanation is provided concerning both the quality of the sales validation/screening and the source of the databases. Data is imported from the sales databases submitted by the counties. The sales are inspected within a quality control review. If county sales databases meet the State Tax Commission standards, then the sales are analyzed by the Traditional Sales Study.

The Reliability Test contains the following major components:

- County Sales Collection History
  - Total number of transfers
  - Number of sales letters sent as a percent of transfers
  - Sales returned percentage
  - Number of usable sales from transfers
  - Number of useable sales as a percent of transfers
  - Turnover rate as a percentage of total parcels
  - Turnover rate as a percentage of residential parcels
  - Percent of properties unchanged in value for sold vs. unsold properties
  - Overall statistics for specified time frames
    - Jan – June of Even Year
    - July – Dec of Even Year
    - Jan – June of Odd Year
    - July – Dec of Odd Year
    - 1 Year study period vs. 6 months after
  - Percent of change for sold properties vs. neighboring properties
  - Percent change for sold properties vs. all unsold properties



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- Past Ratios
- Post-Trim Statistics by 6 month, 12 month and 24 month periods
- Sales Chasing Detection
- New Construction Procedures
- Sales Screening and Matching Process
  - Identifies when any sales are removed because of:
    - Validation Codes
    - Resales
    - Sales that do not match assessment roll parcel database
    - Mixed-use parcels
    - New construction parcels
- Overall Statistics for Sale Properties
- Sales Letter Information
- Representativeness table with stratification by location, year built, and assessed value

For each reassessment cycle, every county must complete a sales questionnaire survey that indicates whether or not the counties are following IAAO guidelines for screening and validating sales. The results of the survey are shown on the Reliability Test and give quick reference to the analyst concerning the counties sales collection procedures.

The last portion of the Reliability Test compares stratifications of the sales and the residential parcel population (excludes mixed use properties) by Location, Age, and Value. This comparison is a test of whether or not the sales are representative of the residential population. This analysis considers all of the sales in the population.

An example of a Reliability Test is shown in **Exhibit 4-15** on the following pages:



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Exhibit 4-15

State Tax Commission of Missouri									
Residential Sales Study			137 - XYZ County			Reliability Test			
2013 Reassessment			1/7/2016						
Disclaimer	This document is only intended for the internal use of the State Tax Commission Ratio Department. It is not intended for distribution outside of the State Tax Commission.		1	Total Res including Mixed Use	5615	Percent	Formula		
			2	Total Res with no Mixed Use	3955	70.44%	Row 2 / 1		
			3	Improved Residential Parcels	2478	62.65%	Row 3 / 2		
			4	Vacant Residential Parcels	1477	37.35%	Row 4 / 2		
Row	County Sales Collection		2008	2009	2010	2011	2012		
5	Transfers		643	612	579	641	591		
6	Sales Letter Sent		171	178	189	212	172		
7	Letters Sent to Transfers as %	Rows 6 / 5	26.6%	29.1%	32.6%	33.1%	29.1%		
8	Sales Letters Returned		62	63	73	65	53		
9	Sales Returned Percent	Rows 8 / 6	36.3%	35.4%	38.6%	30.7%	30.8%		
10	Usable Sales		22	15	27	34	20		
11	Usable Sales/Transfers %	Rows 10 / 5	3.4%	2.5%	4.7%	5.3%	3.4%		
12	Parcel Count		8,474	8,470	8,470	8,557	8,577		
13	Transfers Turnover Rate as %	Rows 5 / 12	7.6%	7.2%	6.8%	7.5%	6.9%		
14	Usable Sales/Parcel Count %	Rows 10 / 12	0.3%	0.2%	0.3%	0.4%	0.2%		
Past Ratios			2003	2005	2007	2009	2011		
			Appraisal	Appraisal	Appraisal	Appraisal	Sales		
Median			20.0%	20.5%	21.9%	18.9%	18.3%		
Weighted Mean			18.9%	18.6%	16.2%	17.3%	17.3%		
Coefficient of Dispersion			27.0%	54.4%	60.5%	86.8%	29.6%		
Price Related Differential			113.8%	143.9%	180.0%	191.0%	117.6%		
Post-Trim Statistics		Count	Median	Weighted Median	Weighted Mean	Mean	COD	PRD	
36	Prior to January 2012	6	114.09%	141.1%	193.1%	143.2%	44.6%	143.6%	
6 months	January 2012 - June 2012	15	94.98%	96.7%	339.4%	216.8%	146.0%	234.7%	
	July 2012 - December 2012	15	102.15%	103.8%	185.0%	137.3%	52.2%	145.9%	
	January 2013 - June 2013	13	91.95%	95.4%	114.7%	100.8%	17.0%	103.6%	
	July 2013 - December 2013	11	91.95%	92.3%	108.7%	91.6%	20.2%	113.4%	
12	January 2012 - Dec. 2012	28	98.13%	98.1%	255.6%	174.6%	96.6%	187.4%	
	January 2013 - Dec. 2013	22	92.25%	92.3%	113.7%	97.4%	19.6%	108.0%	
24	January 2012 - Dec. 2013	54	94.21%	94.2%	162.0%	120.6%	42.9%	132.4%	
Sales Chasing Detection			Sold Properties	Neighboring Properties	All Unsold Property		Residential Property		
2012 - 2013	Number of Parcels		41	51	3,914		3,955		
	Median % Change		0.0%	0.0%	0.0%		0.0%		
	Percent Changed		26.8% (11)	41.2% (21)	34.3% (1344)		34.3% (1355)		
	Neighboring Properties are those within a close proximity to the Sold Properties.								



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2013	Assessment Cycle Year
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#### Explanation of Page 1 Reliability

**Rows 1 - 4 An analysis to determine if the residential subclass number of assessments are representative of the population.**

Row 1	Number of Residential assessments in the county. This number represents the total of residential only assessments plus mixed-use residential assessments.
Row 2	Number of Residential-only assessments in the county. Mixed-use residential assessments have been removed from the study.
Row 3	The number/percentage of assessments in row 2 that are identified as improved by the county's assessment roll.
Row 4	The number/percentage of assessments in row 2 that are identified as vacant by the county's assessment roll.

#### Rows 5 - 14 An analysis to determine if the sales data is reliable.

Row 5	The number of county transfers recorded by the Technical Assistance staff.
Row 6	The number of county sales letters mailed as recorded by the Technical Assistance staff.
Row 7	The mathematical results of dividing Row 6 by Row 5, a percentage of sales letters mailed to county transfers.
Row 8	The number of county sales letters returned as recorded by the Technical Assistance staff.
Row 9	The mathematical results of Row 8 divided by Row 6. This is the percentage of returned sales letters out of the sales letters mailed by the county. There is no set guideline, but a return of 25% or greater is considered good. A return of 25% or less is considered not so good.
Row 10	The number of sales the county considered to be valid sale as recorded by the Technical Assistance staff. This row of figures shows the amount of market activity. If the numbers are falling off, there is less market activity. If the number are increasing, there is more market activity.
Row 11	The mathematical results of Row 10 divided by Row 5, comparing usable sales to the number of transfers.
Row 12	The county's parcel count verified by the Technical Assistance Staff. The parcel count includes mapped parcels, non-mapped parcels, and personal property accounts. The parcel count could eventually become the county's certified parcel count.
Row 13	The mathematical results of Row 5 divided by Row 12 and a comparison of the transfers to the parcel count. There is no guideline, but depending on the county size it could be around 10%.
Row 14	The mathematical results of Row 10 divided by Row 12, comparing Usable Sales to the Parcel Count. The percentage helps to determine if the number of Usable Sales is representative. In COV Counties, an expected percent would be 2-5%. In large urbanized First Class Counties, an expected percent would be +/-1%. In small 3rd Class Counties, an expected percent would be .5-1%.

**Past Ratios provide a Historical Reference and indicate if the ratio was a Sales, Hybrid, or Appraisal Study.**

**Post-Trim Statistics and Sales Chasing Detection are the analyses to determine Ratio's recommendation to proceed with a County Sales or Appraisal Study. Additional information may be provided by the commission or other departments in arriving at a conclusion.**



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Residential Sales Study		137 - XYZ County		Reliability Test	
2013 Reassessment				Page 2	
<b>Removals</b>					
<input checked="" type="checkbox"/> Year Built ≥ 2012 <input type="checkbox"/> County Flag <input checked="" type="checkbox"/> New Construction <input type="checkbox"/> Occupancy					
		<b>Sale Count</b>			
1	County Submitted	61			
2	County Validated	61			
3	Duplicate Sales	1			
		<b>1 Year</b>		<b>2 Years</b>	
4	Sales Matched to Assessment Roll	28		60	
5	Residential Only Sales	26		50	
6	New Construction	0		0	
7	Final Count (Row 5 - 6)	26		50	
8	Usable Sales Rate (Row 7 / 1)	42.6%		82.0%	
9	Sales with Location	26		50	
10	Sales with Improvements	25		45	
11	Sales with Year Built	25		42	
<b>Overall Statistics</b>		<b>Change</b>		<b>No Change</b>	
Sample Size		18		36	
Median		107.6%		92.3%	
Weighted Mean		89.2%		91.7%	
Mean		120.0%		120.9%	
Coefficient of Dispersion (COD)		36.3%		43.2%	
Price Related Differential (PRD)		134.6%		131.9%	
<b>SALES LETTER</b>					
<b>Sales Letter Questions</b>					
<input type="checkbox"/> Sales Date <input checked="" type="checkbox"/> Reflects Market					
<input checked="" type="checkbox"/> Sales Price <input type="checkbox"/> Property Type					
<input checked="" type="checkbox"/> Personal Property					
<b>New Construction Flags</b>					
<input type="checkbox"/> Jan 1 Imp. <input checked="" type="checkbox"/> Occupancy					
<input checked="" type="checkbox"/> Year Built <input type="checkbox"/> Other					
<b>Source of Data</b>					
<input checked="" type="checkbox"/> Sales Letters <input type="checkbox"/> Phone Calls					
<input type="checkbox"/> Interviews <input type="checkbox"/> Door Hangers					
<input checked="" type="checkbox"/> Third Party Source					
<b>No. of Attempts:</b> <input type="text" value="1"/>					
<b>Adjustments</b>					
<input type="checkbox"/> Time Trending <input type="checkbox"/> Finance					
<input checked="" type="checkbox"/> Pers. Property <input type="checkbox"/> Realtor Fees					
<input type="checkbox"/> Other					
v=valid    i=invalid    f=follow up					
(i) Foreclosures					
(i) Relatives					
(i) Trade					
(i) Multiparcel					
(v) Split					
(f) Low Ratio					
(v) Short Time					
(v) Long Time					
(v) Online					
(i) Tax Exempt					
(i) New Construction					
Occupancy					
(i) Judicial Order					
(i) Auction					
(v) Estate					
(i) Doubtful Title					
(f) Resales					
<b>Histogram of All Ratios</b>		<b>Histogram of Improved Ratios</b>		<b>Histogram of Vacant Ratios</b>	





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#### Explanation of Page 2 Reliability Study

Row 1	The number of sales submitted by the county to the State Tax Commission. Sale transactions occurred from 1-1-2012 to 12-31-2013.
Row 2	The number of sales the county identified as valid and non-exempt sales.
Row 3	The number of duplicate parcels that were listed in the sales database submitted by the county.

*In Rows 4 - 11, sales are analyzed in 1 Year of sales occurring from July 1, 2012 to June 30, 2013 or by 2 Years of sales occurring from January 1, 2012 to December 31, 2013.*

Row 4	The number of sales that contained matched parcel numbers in the Sales Database and the County's Assessment Roll. Duplicate sales from Row 3 have been removed.
Row 5	The number of submitted sales having residential assessment only. Mixed-use residential sales have been removed.
Row 6	The number of sales that were identified as having new construction or had a partial assessment. Sales that have a substantial assessment difference in the two-year cycle could indicate new construction or occupancy. Sales that have a Year Built of the current assessment year are also considered to be new construction.
Row 7	The mathematical results of Row 5 minus Row 6. This is the number of residential usable sales in the 6 or 12 months before or after 1-1-2013 after removing new construction or occupancy parcels.
Row 8	The mathematical results of Row 7 divided by Row 1. It is the percentage of Usable Sales as compared to the number of county sales submitted.
Row 9	The number of final sales in Row 7 listed with a school district or some location identifier. The school district is the default. Counties may request another location such as lake lots, tier 1 lots, etc.
Row 10	The number of final sales in Row 7 that were designated as an Improved Sales.
Row 11	The number of final sales in Row 7 with Year Built information.

*Overall Statistics compares the statistical measurements (Median, COD, etc.) between those sold parcels that have changed in value between the two years in the cycle to those that have not. Minimal differences between the columns are ideal. Higher disparity between the columns could indicate concerns.*

*The Sales Letter section analyzes whether a county is complying with IAAO Sales Verification Procedures.*

*Histograms provide a visual interpretation of various ratios.*





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Residential Sales Study		137 - XYZ County		Reliability Test					
Reassessment				Page 3					
	A	B	C	D	E	F	G	H	I
<b>Total Population Location Stratification</b>									
Location	Count			Median Age				Median Value	
	Sales	Res	%	Sales	%	Res	%	Sales	Res
Overall	56	3,955	1.4%	1969	86%	1955	52%	\$10,950	\$2,520
2	2	277	0.7%	1946	100%	1921	65%	\$5,455	\$1,640
3	23	1,008	2.3%	1964	96%	1955	82%	\$11,610	\$8,440
4	1	21	4.8%	2000	100%	1980	81%	\$13,190	\$8,270
5	4	120	3.3%	2000	100%	1999	88%	\$23,985	\$14,710
6	2	152	1.3%	1943	100%	1930	71%	\$3,635	\$3,640
7		50				1979	62%		\$3,915
8	13	1,654	0.8%	2001	46%	1960	16%	\$7,260	\$370
9	10	470	2.1%	1940	100%	1930	87%	\$8,525	\$5,490
10	1	145	0.7%	1984	100%	1925	70%	\$12,950	\$2,220
11		58				2000	50%		\$7,615

1% of pop.	6 Mos.	7 Mos.	8 Mos.	9 Mos.	10 Mos.	11 Mos.	12 Mos.
40	26	31	38	43	47	47	50

Prior to 12 months, if needed					
25 Mos.	26 Mos.	27 Mos.	28 Mos.	29 Mos.	30 Mos.
53	56	56	56	56	56
31 Mos.	32 Mos.	33 Mos.	34 Mos.	35 Mos.	36 Mos.
56	56	56	56	56	56
37 Mos.	38 Mos.	39 Mos.	40 Mos.	41 Mos.	42 Mos.
56	56	56	56	56	56
43 Mos.	44 Mos.	45 Mos.	46 Mos.	47 Mos.	48 Mos.
56	56	56	56	56	56
49 Mos.	50 Mos.	51 Mos.	52 Mos.	53 Mos.	54 Mos.
56	56	56	56	56	56
55 Mos.	56 Mos.	57 Mos.	58 Mos.	59 Mos.	60 Mos.
56	56	56	56	56	56



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#### Explanation of Page 3 columns

*The Total Population Location Stratification is an analysis to determine if the sales are representative of the county.*

<b>Column A</b>	The number of usable sales after removing new construction or occupancy assessments. This number should match page 2 row 7.
<b>Column B</b>	The number of parcels that have residential assessments only with a school district or some form of location identifier.
<b>Column C</b>	The mathematical results of dividing columns A by B, showing the percentage of sales in each location. There is no scientific method to determine if a location has adequate representation, but based on past studies, the percentage is generally not more than double or less than half of the overall percentage. Locations with low parcel count and sales can vary outside of this guideline.
<b>Column D</b>	The Median Age of Sales listed in Column A. Only parcels with Year Built information are used to find this median.
<b>Column E</b>	The percentage of sales that have a Year Built listed.
<b>Column F</b>	The Median Age of Residential Parcels listed in Column B. Only parcels with Year Built information are used to find this median.
<b>Column G</b>	The percentage of Residential Parcels that have a Year Built listed.
<b>Column H</b>	The Median Value of sales listed in Column A.
<b>Column I</b>	The Median Value of Residential Parcels in Column B.

<b>1% of Population</b>	The mathematical calculation indicating 1% of the Total Res with no Mixed-Use on Page 1 Row 2. This could vary by 1 due to rounding.
<b>6 Mos.</b>	The number of parcels sold in the 6 months (July 1, 2012 to June 30, 2013) before and after the assessment date.
<b>7 Mos.</b>	The number of parcels sold in the 7 months (June 1, 2012 to July 31, 2013) before and after the assessment date.
<b>8 Mos.</b>	The number of parcels sold in the 8 months (May 1, 2012 to August 31, 2013) before and after the assessment date.
<b>9 Mos.</b>	The number of parcels sold in the 9 months (April 1, 2012 to September 30, 2013) before and after the assessment date.
<b>10 Mos.</b>	The number of parcels sold in the 10 months (March 1, 2012 to October 31, 2013) before and after the assessment date.
<b>11 Mos.</b>	The number of parcels sold in the 11 months (February 1, 2012 to November 30, 2013) before and after the assessment date.
<b>12 Mos.</b>	The number of parcels sold in the 12 months (January 1, 2012 to December 31, 2013) before and after the assessment date.



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## 2. TRADITIONAL SALES STUDY REPORT

Once a county passes the Reliability Test, the sales are imported into program templates to calculate the statistics used in the ratio study. The Traditional Sales Study has three stages: Preliminary, Tentative, and Final. First, the data is imported in the Preliminary stage. The statistics calculated are reviewed internally and the report quality is monitored. The internal review consists of both specific computer program functions to review for potential errors, as well as oversight and review of results by Management. A review is also completed by the research analyst when preparing the data and compiling the reports.

The Traditional Sales Study Report can vary in length, but typically includes the following components:

- Cover Page
  - Includes most of the statistical results used in the decision model process
- Overall Weighted Statistics
  - Shows the trimming process and provides a short description of each statistic used in the report.
- Stratification by Vacant and Improved property
  - Includes histograms (graphs) for each stratification
- Stratification by Assessed Value
  - Includes histograms (graphs) for each stratification
- Stratification by Year Built
  - Includes histograms (graphs) for each stratification
- Stratification by Location
  - Includes histograms (graphs) for each stratification
  - Includes overall weighted statistics which are used in the decision model

The Commission attempts to stratify the data into quartiles whenever the data is sufficient and normally limits the number of stratifications between two and four; as an exception, those counties with more than four school districts will possibly have more than four strata for the location variable.



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Once it is determined that the sale price estimators are valid, reliable, and reflect the county's level of assessment, the report becomes tentative and is then provided to the county. Data is provided concerning the steps of the sales study process. Counties are encouraged to review the information, ask any questions, and/or provide feedback. Approximately thirty days are allowed for the county to review the report and request a meeting. After meeting with the county to discuss the study results, or after the time period has lapsed, the study becomes final.

An example of a Traditional Sales Study Report is shown in **Exhibit 4-16**, on the pages which follow:



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Exhibit 4-16

### State Tax Commission of Missouri

Residential (Weighted Sales Study) 2013 Reassessment

#### XYZ County

Decision Model Statistics	@19%	@100%
Weighted Median Ratio.....	18.74%	98.62%
95% Low Confidence Interval.....	16.63%	87.52%
95% High Confidence Interval.....	20.85%	109.72%
Weighted Coefficient of Dispersion (COD).....		52.56%

Additional Statistics	@19%	@100%
Mean Ratio.....	24.99%	131.51%
Weighted Mean Ratio.....	26.52%	139.57%
Price Related Differential.....		94.22%

#### Sample Data

Pre-Trim Sample Size.....	56
Low Trims.....	0
High Trims.....	2
Post-Trim Sample Size.....	54
Number of Assessments.....	3955

State Tax Commission of Missouri  
301 West High Street  
PO Box 146  
Jefferson City, MO 65102-0146  
Phone: (573) 751-2414  
Fax: (573) 751-1341

Two ratio study procedures are available for analysis:

**1) Traditional Sales Study**  
A sales study that analyzes assessment levels based on sales stratified by land use, location, and characteristics of property.

The Decision Model Statistics listed on this page are overall weighted mathematical calculations based on the data submitted from the county and weighted by both time and location.

**2) Random Appraisals**  
For many jurisdictions, the availability of sales is scarce. In such scenarios, parcels will be randomly appraised. Every parcel will have an equal chance to be selected in the random appraisal study.

<http://www.stc.mo.gov/>



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(Time Weighted Sales Study)

### Summary Statistics

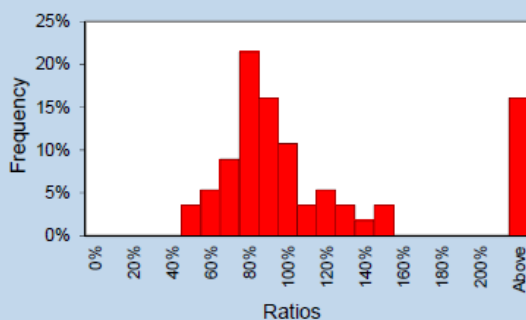
2013 Reassessment Page 2

### Overall Descriptive Statistics

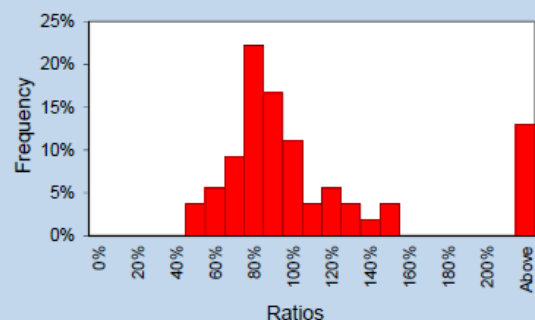
	Pre-Trim	Post-Trim	Description	Required
<b>Sample Size</b>	<b>56</b>	<b>54</b>	The number of sales in a 26 month period	Minimum 50
<b>Median</b>	<b>96.46%</b>	<b>94.21%</b>	The middle ratio when ratios are arranged in ascending order.	90%-110%
95% - Low Ratio	88.93%	88.51%	The range where the population median most likely exists	Overlaps with 90%-110%
95% - High Ratio	109.72%	106.28%		
<b>Weighted Mean</b>	<b>139.64%</b>	<b>119.78%</b>	An average in which ratios are weighted in proportion to their sold amounts.	90%-110%
95% - Low Ratio	3.03%	106.76%	The range where the population weighted mean most likely exists	Overlaps with 90%-110%
95% - High Ratio	276.25%	132.80%		
<b>Mean</b>	<b>140.87%</b>	<b>120.58%</b>	The arithmetic average of ratios	90%-110%
95% - Low Ratio	106.49%	100.80%	The range where the population mean most likely exists	Overlaps with 90%-110%
95% - High Ratio	175.25%	140.35%		
<b>Coefficient of Dispersion</b>	<b>41.87%</b>	<b>42.87%</b>	The average percent deviation from the median ratio	Less than 20%
<b>Price Related Differential</b>	<b>100.88%</b>	<b>100.66%</b>	A gauge of assessment uniformity for high and low valued properties	98%-103%

Following Section 5.2 and Appendix B of the IAAO Standard on Ratio Studies, the STC employs outlier trimming guidelines to detect extreme outliers that might otherwise skew statistical results. The STC uses a uniform trimming process that tends to remove as many high outliers as low outliers, thus keeping the median relatively stable.

Histogram of Ratios (Prior to Trimming)



Histogram of Ratios (After Trimming)





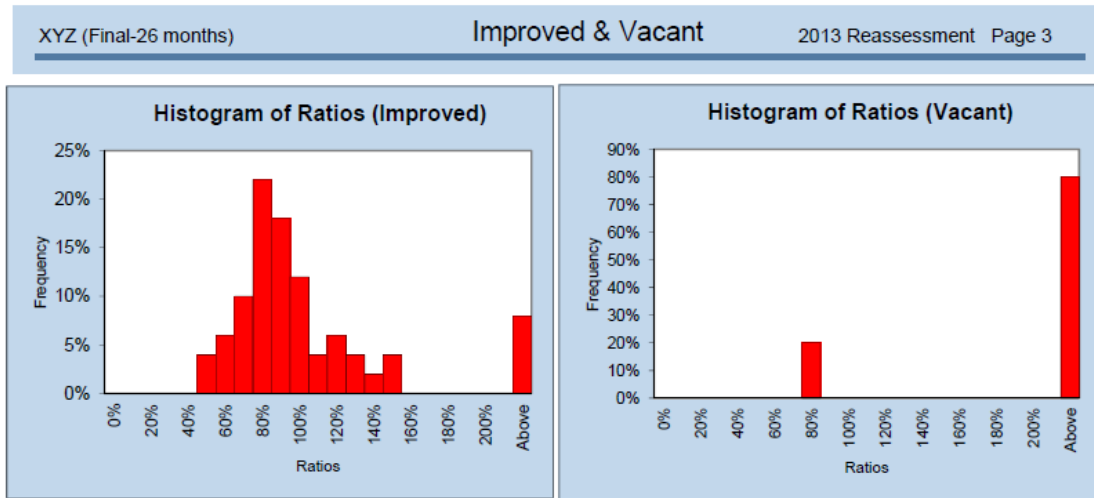
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### Overall Descriptive Statistics

Post Trim	Improved	Vacant	Description	Required
<b>Sample Size</b>	<b>50</b>	<b>5</b>	The number of sales in a 26 month period	25 minimum
<b>Median</b>	<b>93.00%</b>	<b>382.89%</b>	The middle ratio when ratios are arranged in ascending order.	90%-110%
95% - Low Ratio	86.65%		The range where the population median most likely exists	Overlaps with 90%-110%
95% - High Ratio	105.54%			
<b>Weighted Mean</b>	<b>107.95%</b>	<b>360.40%</b>	An average in which ratios are weighted in proportion to their sold amounts.	90%-110%
95% - Low Ratio	98.39%		The range where the population weighted mean most likely exists	Overlaps with 90%-110%
95% - High Ratio	117.51%			
<b>Mean</b>	<b>108.63%</b>	<b>364.07%</b>	The arithmetic average of ratios	90%-110%
95% - Low Ratio	94.84%		The range where the population mean most likely exists	Overlaps with 90%-110%
95% - High Ratio	122.42%			
<b>Coefficient of Dispersion</b>	<b>31.47%</b>	<b>45.12%</b>	The average percent deviation from the median ratio	Less than 20%
95% - Low Ratio	21.64%		The range where the population coefficient of dispersion most likely exists	95% Low Ratio less than 20%
95% - High Ratio	45.36%			
<b>Price Related Differential</b>	<b>100.63%</b>	<b>101.02%</b>	A gauge of assessment uniformity for high and low valued properties	98%-103%



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XYZ (Final-26 Months)

Stratification by Assessed Value

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2013 Reassessment

Assessed Value	\$190- \$10949	\$10950- \$52280
Sample Size	28	28
High Trims	0	0
Low Trims	0	0
Total Trimmed	0	0
Remaining	28	28
Population	2,805	712
Proportion	79.76%	20.24%

Post Trim Statistics	\$190- \$10949	\$10950- \$52280
Sample Size	28	28
Median	124.6%	89.4%
Low 95% Conf Int	97.9%	83.5%
High 95% Conf Int	211.6%	95.0%
Mean	190.8%	90.9%
Low 95% Conf Int	125.9%	83.4%
High 95% Conf Int	255.7%	98.5%
Weighted Mean	189.6%	91.1%
Low 95% Conf Int	135.0%	83.7%
High 95% Conf Int	244.2%	98.4%
Coefficient of Dispersion	79.7%	15.3%
Low 95% Conf Int	54.2%	11.0%
High 95% Conf Int	128.6%	23.2%
Price Related Differential	100.6%	99.9%

Statistical results for each stratum are provided for informational purposes only. The STC does not employ a sample size estimator for each individual stratum and cannot validate the individual stratum results with statistical certainty. The information is being provided in that it might assist the user in identifying areas for further study and analysis. Readers are cautioned to disregard statistics for individual strata with pre-trim sample sizes of 25 or less.





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XYZ (Final-26 Months)

Stratification by Assessed Value

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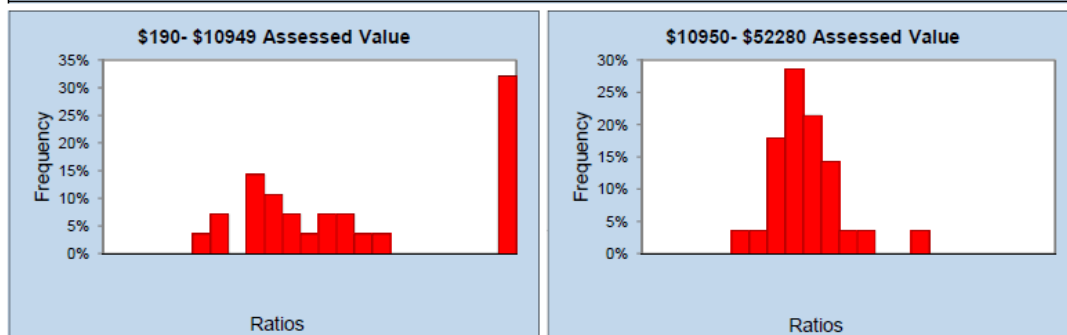
2013 Reassessment

### Sales Ratio Histograms by Stratum

Section 3.3 of the IAAO Standard on Ratio Studies recommends stratification to facilitate a more complete and detailed picture of appraisal performance and to enhance sample representativeness.

The STC defaults to stratification into quartiles whenever there is sufficient information available. Depending on the available data, the STC may range from two to eight stratifications, however the STC will avoid over-stratification.

It should be noted that the lowest value stratification(s) may include vacant land which can skew those results.





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XYZ (Final-26 months)

Stratification by Year Built

Page 6

2013 Reassessment

Year Built	1880-1968	1969-2012
Sample Size	24	24
High Trims	0	1
Low Trims	0	0
Total Trimmed	0	1
Remaining	24	23
Population	1,314	762
Proportion	63.29%	36.71%

Post Trim Statistics	1880-1968	1969-2012
Sample Size	24	23
Median	95.9%	92.3%
Low 95% Conf Int	75.1%	86.7%
High 95% Conf Int	125.3%	106.3%
Mean	110.1%	102.5%
Low 95% Conf Int	86.6%	89.7%
High 95% Conf Int	133.6%	115.3%
Weighted Mean	108.3%	102.6%
Low 95% Conf Int	89.9%	92.6%
High 95% Conf Int	126.7%	112.6%
Coefficient of Dispersion	37.5%	18.8%
Low 95% Conf Int	24.4%	10.2%
High 95% Conf Int	61.4%	34.0%
Price Related Differential	101.6%	99.9%

Statistical results for each stratum are provided for informational purposes only. The STC does not employ a sample size estimator for each individual stratum and cannot validate the individual stratum results with statistical certainty. The information is being provided in that it might assist the user in identifying areas for further study and analysis. Readers are cautioned to disregard statistics for individual strata with pre-trim sample sizes of 25 or less.



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XYZ (Final-26 months)

Stratification by Year Built

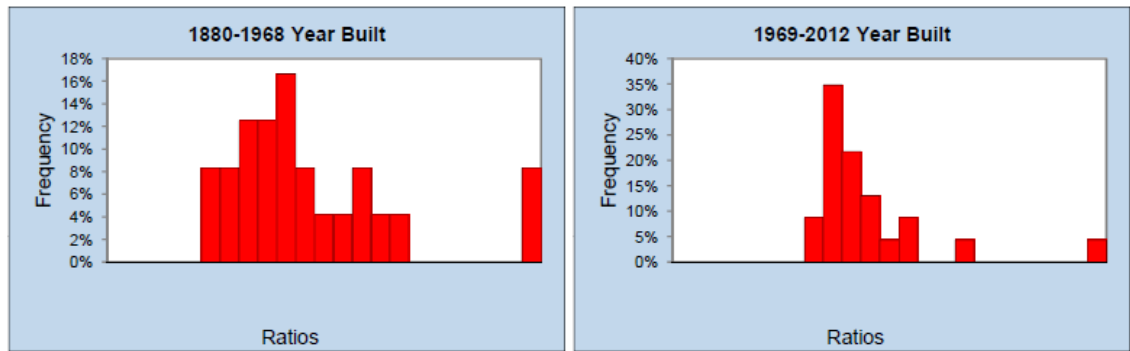
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2013 Reassessment

### Sales Ratio Histograms by Stratum

Section 3.3 of the IAAO Standard on Ratio Studies recommends stratification to facilitate a more complete and detailed picture of appraisal performance and to enhance sample representativeness.

The STC defaults to stratification into quartiles whenever there is sufficient information available. Depending on the available data, the STC may range from two to eight stratifications, however the STC will avoid over-stratification.





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XYZ (Final-26 months)

Stratification by School District

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2013 Reassessment

School District	Hogwarts	All Others
Sample Size	23	33
High Trims	0	2
Low Trims	0	0
Total Trimmed	0	2
Remaining	23	31
Population	1,008	2,947
Proportion	25.49%	74.51%

Post Trim Statistics	Hogwarts	All Others	Overall Weighted
Sample Size	23	31	54
Median	90.7%	105.5%	98.6%
Low 95% Conf Int	80.2%	89.9%	88.5%
High 95% Conf Int	98.9%	123.9%	109.7%
Mean	108.8%	129.3%	
Low 95% Conf Int	85.6%	98.7%	
High 95% Conf Int	132.0%	159.9%	
Weighted Mean	108.9%	128.0%	
Low 95% Conf Int	90.4%	109.7%	
High 95% Conf Int	127.5%	146.3%	
Coefficient of Dispersion	36.1%	42.5%	62.8%
Low 95% Conf Int	21.7%	26.9%	39.1%
High 95% Conf Int	65.9%	79.2%	107.3%
Price Related Differential	99.9%	101.0%	

Statistical results for each stratum are provided for informational purposes only. The STC does not employ a sample size estimator for each individual stratum and cannot validate the individual stratum results with statistical certainty. The information is being provided in that it might assist the user in identifying areas for further study and analysis. Readers are cautioned to disregard statistics for individual strata with pre-trim sample sizes of 25 or less.



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XYZ (Final-26 months)  
2013 Reassessment

### Stratification by School District

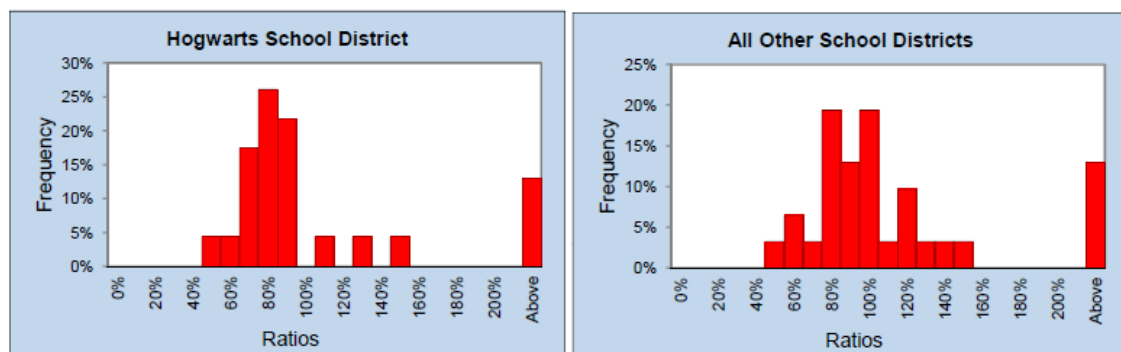
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### Sales Ratio Histograms by Stratum

Section 3.3 of the IAAO Standard on Ratio Studies recommends stratification to facilitate a more complete and detailed picture of appraisal performance and to enhance sample representativeness.

The default location variable is School District. County assessors can request a different variable other than School District prior to statistical analysis provided it would result in better representation of property characteristics and market tendencies.

When the overall descriptive statistics are out of compliance with STC requirements, weighted statistics are calculated using the proportions of the number of properties in the county amongst each school district strata. When the overall descriptive statistics are out of compliance, school districts with insufficient sales are combined. If the combined sales in locations with insufficient sales are equal to or greater than 25% of the residential population, then the Progressive Hybrid study is performed. If the combined sales in locations with insufficient sales are less than 25% of the residential population, then the Traditional Sales Study is performed, but with the results weighted by location.



### 3. COUNTY MEETING PROCESS – Residential Sales Study

At the county meeting process, the assessor and staff have already been provided all the information used to generate the Traditional Sales Study, but now have an ability to ask any questions about the data, processes and procedures, or the statistical results. One of the important parts of the meeting process is to verify with the county that only valid and verified sales have been used in the sales study. Other common issues normally discussed deal with extreme outlier ratios; for example, it is important to verify that a vacant land sale is not being compared against an improved property value or vice versa. Even though the sales being used in the Traditional Sales Study have been provided by the county, the tentative results can indicate data entry errors, or other problems that can affect the study results.

Often the county will follow up on sale parcels that are discussed and then will provide the



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Commission with explanations and documentation concerning each sale in question. The Commission uses the county's additional information to make determinations whether the sale parcels in question should remain in the study or if they may need to be removed. After all the information from the county meeting process is analyzed, the Commission then determines a final ratio study result.

#### 4.7 RANDOM APPRAISAL STUDY

##### **(Residential, Agricultural, and Commercial)**

Agricultural and commercial properties are only analyzed by appraisal studies whereas residential property can be analyzed by either sales or appraisals. Sales studies for the agricultural and commercial subclasses are less likely to result in justifiable assessment level estimates.

For the residential subclass, if the Reliability Test from the Traditional Sales Study shows that the sales data is not representative or does not pass the Reliability Test for any other reason, then the Commission will utilize a random appraisal study to determine the level of assessment. In a random appraisal study, the Commission takes a random sample of all of the residential parcels in the county and then sends staff appraisers to appraise those properties that were randomly selected. Currently, the Commission uses 25 random samples for a residential study. The resulting appraised values are used as proxies for market value and compared to the county's value to determine the ratios used in the ratio study.

Agricultural studies rely mainly on the productivity value of the land, rather than market value. Market value sales do not reflect productivity values based on the grading required by the State Tax Commission. No comparison can be made between productivity values determined by the assessor and market values from sales. Due to the different definitions of value being measured (productivity value vs. market value), no valid, reasonable, or reliable conclusions can be drawn from a sales ratio study on agricultural property. Assessors do use market value sales for analyses on those agricultural properties where market value determinations are required, but this is such a small minority of the agricultural parcels that it still renders an overall sales ratio study to be inadequate for this classification of property.

The inherent disadvantages that can exist in sales are more common in commercial property. The number of sales and/or turnover rate is often inadequate to meet the standards of the State Tax Commission. For commercial property sales, there is immense difficulty separating out intangible value, personal property, and other valuable assets or considerations to obtain an adjusted sale value that appropriately represents the real property value. Additionally, it is much more difficult, subjective and burdensome to accurately validate sales for these properties. Therefore, a random independent appraisal study is utilized to produce valid statistical results that can accurately



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determine the level of assessment for commercial properties.

A stratified random sample is taken from the subclass population to determine which properties will be appraised.

### 1. APPRAISAL VALUATION

In the valuation phase, it is the responsibility of the appraiser to research the marketplace and to seek the market information necessary to arrive at the market value of the properties being appraised. This does not apply, however, in the valuation of agricultural and horticultural land when such lands are valued by their productive capability. The effective date of all appraisals completed during the two-year period is January 1 of the reassessment year, or odd-numbered year, being studied. This conforms to the same effective date of appraisal that is used by the assessor in establishing the assessed values on the parcels selected. The Commission has adopted the Uniform Standards of Professional Appraisal Practice (USPAP) as the standard to which appraisals performed for the State Tax Commission must comply, following the recommendations in the *IAAO Standard on Ratio Studies*.

The appraisals performed by ratio staff appraisers employ one or more of the following approaches to value:

- Cost Approach
- Sales Comparison Approach
- Income Approach

The applicability of using any of the approaches is dependent upon the market data available for each individual appraisal.

#### **A. Residential / Agricultural Property**

Market value is the basis of value for properties in the residential subclass. In the agricultural subclass, buildings and other structures customarily associated with farming and agricultural lands that are vacant and unused, in accordance with Section 137.017(4), RSMo, are valued under the market value concept. Lands that are used for agricultural and horticultural purposes are valued in accordance with the land's productive capability and graded using one of the eight (8) grades published by the Commission.

One of the benefits of implementing the two-year ratio study cycle is the improvements made in the valuation process. One of the improvements involves researching and inspecting market information. Appraisers now have the time to look for additional sales information and to inspect



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the properties that have sold to verify their comparability to the subject properties. The second improvement involves documenting the methodology employed by the appraiser in arriving at the appraised value of the properties in the study. It is important in reviewing an appraisal that the reader, or reviewer, is able to arrive at the same value conclusion as the appraiser who prepared the report. Appraisal reports have been produced and reviewed digitally since 2005. Any data, information and documentation necessary to support the appraiser's opinions and conclusions are kept in a work file. The appraiser's work file is retained for a minimum of ten (10) years after preparation or two (2) years after the final disposition of any judicial proceeding in which the appraiser provided testimony related to the assignment, whichever period expires last.

In selecting counties for the ratio study, priority is given to those counties where preliminary research indicates potential valuation and/or other issues may exist that substantially impact the tax base.

#### **B. Commercial Property**

Market value is the basis of value for properties in the commercial subclass. As with the residential and agricultural appraisals, the two year ratio study cycle for completing the appraisals improves the final product. Benefits are gained in the improved appraisal reporting format and the additional time to investigate the marketplace for comparable sales and rentals that are essential to the valuation process. Beginning with the 2015 commercial ratio cycle, seventy-five (75) counties will be completed on a four year ratio cycle with approximately half of the counties being completed in each two year ratio study cycle. Forty (40) counties will be on a six year process with approximately one-third of the counties being completed in each two year ratio study cycle. This practice was deemed necessary due to budget and staffing reductions. In making the decision to extend the time frame for measuring commercial assessments in all Missouri counties, particular scrutiny was given to the complexities and nuances of the commercial real estate market. It generally takes longer to recognize trends in commercial real estate due to the timing of leases and the overall scarcity of sales and income information available at any time, and historical information indicated that commercial assessments had far less variability between cycles than the residential subclass.

In selecting counties for the ratio study, priority is given to those counties where preliminary research indicates potential valuation and/or other issues may exist that substantially impact the tax base.

## **2. INTERNAL REVIEW**

The internal review process consists of two components. The main component involves a review of the procedures used in the appraisal process and the second component is a desk audit for quality





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control purposes.

The review is completed by the appraiser supervisor who checks for compliance with internal policies and procedures. Supervisors use the market information supplied by the appraiser plus any supplemental available market data that might be obtained in the review process. Desk audits are completed by Management staff on an 'as needed' basis to assist in maintaining quality control and adherence to policies and procedures.

An illustrative sample of a residential appraisal report is shown in **Exhibit 4-17**. The appraisals may contain more information than is shown (zoning documents, maps, community information, etc).



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### Exhibit 4-17

MISSOURI STATE TAX COMMISSION RESIDENTIAL PROPERTY APPRAISAL										
Owner's Name: Doe, John and Jane	Insp. Date: 7/4/2010 Time: 11:10 AM		USE RESTRICTIONS This is a RESTRICTED USE appraisal intended for the use of the State Tax Commission only.							
Situs Address: 123 Smith Street	Effective Date: 1/1/2011		Date of Report: 8/1/2010							
City: Anytown	Book: Control No.:		Appraiser: John Smith							
Parcel Number: 1-22-333-444-55	Property Used: R X A C		Supervisor: Jane Jones							
Legal Description: Lot 1 of Green Grass Subd Vision	Sec. 33 Twp. 35 Rng. 27		County/Sample Number: 1 / 1							
Assessed Value: \$19,570			Appraised Value: \$116,700							
Acres: 0.3444										
Ld Size: 100 x 150			Methods:							
SALES DATA			OCCUPANT			APPROXIMATE VALUE		Value Conclusions		Final Value
Sales Date: .....			<input checked="" type="checkbox"/> Owner			Site Value		Cost: \$119,500		\$22,700 L
Sales Price \$: .....			<input type="checkbox"/> Tenant			<input type="checkbox"/> Land Rental		Sales: \$116,700		\$94,000 I
Listing Date: .....			Owner Considered for Sale History			<input type="checkbox"/> Market Extraction		Income: .....		\$116,700 T
Received Verified STC Sales Letter			<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			<input type="checkbox"/> Ground Rent Exp.				
						Other				
THREE YEAR OWNERSHIP HISTORY										
Property has not been sold in the past three years										
Contact: No Owner Contact										
FINAL VALUE RECONCILIATION										
(Address all three approaches to value; the exclusion of any approach must also be addressed.)										
The Cost Approach, using the Marshall Swift Residential Estimator, indicates a value of \$119,500. The Cost Approach is somewhat limited in its reliability due to the age of the subject, however the depreciation on the property is reasonable due to adequate maintenance over the years.										
The Sales Comparison Approach indicates a value of \$116,700. The appraiser was able to utilize four comparable sales within the subject's immediate subdivision, two of which are on the subject's street. The sales considered are all similar to the subject in comparability and result in a well supported and narrow range of value.										
The subject is in a neighborhood of owner-occupied housing with no rental data available, therefore the Income Approach was not applicable.										
The Sales Comparison Approach is the most valid and reliable indicator of value for the subject property, relying on similar sales in the subject's immediate area. The Cost										



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RATIO STUDY DATA REPORT	
Owner's Name: Doe, John and Jane	County/Sample No. 1 / 1
Situs Address: 123 Smith Street	Date of Inspection 07/04/10
City: Anytown	
Parcel Number: 1-22-333-444-55	
Discrepancy: <input type="checkbox"/> Classification <input type="checkbox"/> Mapping <input type="checkbox"/> PRC Data	
<b>Appraiser's Comments:</b> Small difference in deck measurements.	
<b>Review Appraiser's Comments:</b> The differences noted are deemed to be insignificant, but may indicate the deck was replaced since the assessor's last inspection of the property.	



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### SUBJECT PHOTOGRAPH SHEET

COUNTY-SAMPLE NUMBER: 01/01  
PHOTO PAGE NUMBER: 1



Typical Street Scene:



Typical Street Scene:



Front View of Subject:



Rear View of Subject:



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Property Sketch

County - Sample Number: 1 / 1  
Page Number: 1

Photo 4

Photo 2

Photo 3

Photo 1

Wood Deck

11' x 12'

47' x 47'

1 + 1

OH

OP

Area Calculations Summary

Area	Area	Area
Living Area	31.34 sq ft	25.0 x 1.2 = 31
1 + 1	1175.00 sq ft	35 x 47 = 1175
OH	33.50 sq ft	6 x 7 = 33
Total Living Area (Rounded):	1239.84 sq ft	
Non-Living Area	38.50 sq ft	6 x 7 = 33
Wood Deck	138.50 sq ft	12 x 12 = 144



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**Property Sketch** County - Sample Number: 1/1  
Page Number: 2

**Area Calculations Summary**

Non-Taxing Area	Area	Area
1st Floor	1175 Sq Ft	47' x 25' = 1175
Fin Bsmt	527.5 Sq Ft	21' x 25' = 527.5
Garage	527.5 Sq Ft	25' x 21' = 527.5



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NEIGHBORHOOD/MARKET AREA DESCRIPTION									
NEIGHBORHOOD	<b>DEFINE NEIGHBORHOOD:</b> Green Grass Subdivision								
	<b>COUNTY-SAMPLE NUMBER:</b> 1 / 1								
	<b>Present Neighborhood Land Use(s)</b> <b>PREDOMINANT USE:</b> Residential <b>OTHER USES IN NEIGHBORHOOD:</b> <input checked="" type="checkbox"/> Single Family <input type="checkbox"/> Multi-Family <input type="checkbox"/> Farm/Vac. Ag <input type="checkbox"/> Commercial <input type="checkbox"/> Industrial Other: _____								
NEIGHBORHOOD	<b>LOCATION:</b> <input checked="" type="checkbox"/> Urban <input type="checkbox"/> Suburban <input type="checkbox"/> Rural <b>BUILT-UP:</b> <input checked="" type="checkbox"/> Over 75% <input type="checkbox"/> 25 - 75% <input type="checkbox"/> Under 25%								
	<b>CHANGE IN LAND USE:</b> <input checked="" type="checkbox"/> Unlikely <input type="checkbox"/> Likely <input type="checkbox"/> Taking Place from _____ to _____								
	<b>One-Unit Housing Trends</b> Property Values <input type="checkbox"/> Increasing <input checked="" type="checkbox"/> Stable <input type="checkbox"/> Declining Demand/Supply <input type="checkbox"/> Shortage <input checked="" type="checkbox"/> In Balance <input type="checkbox"/> Over Supply								
	<b>One-Unit Housing</b> <table border="1"><thead><tr><th>Price</th><th>Age (yrs)</th></tr></thead><tbody><tr><td>\$80,000</td><td>Low 30</td></tr><tr><td>\$125,000</td><td>High 40</td></tr><tr><td>\$50,000 - \$110,000</td><td>Pred. 35</td></tr></tbody></table>	Price	Age (yrs)	\$80,000	Low 30	\$125,000	High 40	\$50,000 - \$110,000	Pred. 35
	Price	Age (yrs)							
\$80,000	Low 30								
\$125,000	High 40								
\$50,000 - \$110,000	Pred. 35								
<b>SUBJECT IMPROVEMENTS:</b> <input checked="" type="checkbox"/> Paved Streets <input type="checkbox"/> Gravel Streets/Roads <input type="checkbox"/> Sidewalks <input checked="" type="checkbox"/> Street Lights <input checked="" type="checkbox"/> Curb & Gutters <input type="checkbox"/> Off Street Parking Other: _____									
SUBJECT	<b>SUBJECT TOPOGRAPHY:</b> <input type="checkbox"/> Level <input checked="" type="checkbox"/> Gently Rolling <input type="checkbox"/> Rolling <input type="checkbox"/> Steep <input type="checkbox"/> Low <input type="checkbox"/> Flood Plain								
	<b>SUBJECT SITE UTILITIES:</b> <b>PUBLIC:</b> <input checked="" type="checkbox"/> Electricity <input checked="" type="checkbox"/> Natural Gas <input checked="" type="checkbox"/> Public Water <input checked="" type="checkbox"/> Sanitary Sewers <input checked="" type="checkbox"/> Storm Sewers <b>PRIVATE:</b> <input type="checkbox"/> Septic <input type="checkbox"/> Lagoon <input type="checkbox"/> Well <input type="checkbox"/> Private Water Other: _____								
	<b>ZONING:</b> <input checked="" type="checkbox"/> In Compliance (Legal, Legal Non-Conforming) <input type="checkbox"/> No Zoning <input type="checkbox"/> Unknown Zoning District: _____ State the use of the real estate existing as of January 1, 2011: Residential State the use of the real estate reflected in the appraisal: Residential Does the property generally conform to the neighborhood (functional utility, style, condition, use, construction, etc.)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If No, describe: _____								
SUBJECT	<b>SUBJECT HIGHEST AND BEST USE:</b> <input checked="" type="checkbox"/> Present If Other, explain: _____								
	<b>EXPOSURE TIME</b> <input type="checkbox"/> Under 3 mths <input type="checkbox"/> 3 - 6 mths <input checked="" type="checkbox"/> Over 6 mths								
<b>General and Neighborhood Data Analysis/Market Conditions:</b> The subject is in a homogenous area of similar age/size/style homes in an area of town that is mostly developed. There is good access to major roads, and the subject is within walking distance of a public elementary school. Homes in area are similar in age, style and quality. Local market statistics show property values to be stable with adequate supply and demand, however homes are taking longer to sell at the present time. There is no evidence of foreclosure activity affecting the subject's immediate neighborhood, and the sales researched do not show any loss in value vs. older sales. When considering the subject's neighborhood, there are no negatives to report which would have a detrimental effect on value. The subject is in a desirable area that has a proven track record of marketability.									





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SALES COMPARISON APPROACH - SITE VALUATION													County Sample No.		1 / 1			
ITEM	SUBJECT		SALE #1		SALE #2		SALE #3		SALE #4		SALE #5		SALE #6		SALE #7			
State ID	123 Smith Street		157		158													
Site Address	111 Good Drive				201 Curry Road													
City	Anytown				Anytown													
Parcel ID No.	1-23333-444-55		1-21-22-23-24-25		1-24-25-27-19-22													
Site Size	0.34		0.22		0.24													
Prox. to Subject	100 x 150																	
Date of Sale	1-2006		1-2006		7-2006													
Sale Price	\$20,000		\$20,000		\$20,000													
Unit of Comp.	1st		1st		1st													
SP/Unit	\$20,000.00		\$20,000.00		\$20,000.00													
Unit Size	1.00		1.00		1.00													
Source:	400		400		400													
Adjustments													Descriptions		Descriptions		Descriptions	
	Dollar	%	Adj. Applied	Dollar	%	Adj. Applied	Dollar	%	Adj. Applied	Dollar	%	Adj. Applied	Dollar	%	Adj. Applied	Dollar	%	Adj. Applied
Sale Price (SP)			\$20,000.00															
Prop. Rights																		
\$ - % - Adj.																		
Acquired SP			\$20,000.00															
Fin/Mkt. Cond.																		
\$ - % - Adj.																		
Acquired SP			\$20,000.00															
Other:																		
\$ - % - Adj.																		
Acquired SP			\$20,000.00															
Adj SP per Unit			\$20,000.00															
Unit / \$			1.00															
Location	Urban Average		Subdiv Interior		Subdiv Interior													
\$ - % - Adj.																		
Land Size	100 x 150		0.22		0.24													
\$ - % - Adj.																		
Use	Residential		Residential		Residential													
\$ - % - Adj.																		
Unit Fee			all		all													
\$ - % - Adj.																		
Zoning	Residential		Residential		Residential													
\$ - % - Adj.																		
Topography	Rolling		Rolling		Rolling													
\$ - % - Adj.																		
\$ - % - Adj.																		
\$ - % - Adj.																		
\$ - % - Adj.																		
\$ - % - Adj.																		
Adj SP/Unit Size			\$21,500.00															
Net Adjustments			\$1,500.00															
Gross Adjust.			\$1,500.00															



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Sales Comparison Approach - Site Valuation - Page 2				County Sample No.	1 / 1
	Adjusted Price	X	Unit	Value Indication	
Basic Land Value	\$21,500.00	X	1.00	=	\$21,500.00
Excess Land Value		X		=	
			Total Land Value	=	\$21,500.00
			Rounded Total Land Value	=	\$21,500.00
<p>Comments:</p> <p>Comparable sales are located in a similar area with similar style and quality homes except that subject is located inside the city limits of Jefferson City and close to public elementary and middle schools. Subject slightly superior for these reasons. There was no market evidence to indicate that a time adjustment would be warranted. Subject has minimum landscaping along with concrete driveway. Appraiser estimates site improvements at \$1,200. A total site value is \$22,700.</p>					
MARKET EXTRA/ALLOCA					
SITE RECONCILIATION					
<p>Land Value \$21,500 + Depreciated Site Improvements \$1,200 = Total Site Value \$22,700</p>					



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#### COMPARABLE LAND SALE PHOTOGRAPH SHEET

COUNTY-SAMPLE NUMBER: 01/01



SALE 1 DESCRIPTION:

111 Good Drive



SALE 2 DESCRIPTION:

201 Curvy Road



SALE 3 DESCRIPTION:



SALE 4 DESCRIPTION:



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SITE IMPROVEMENT VALUATION																	
COUNTY/SAMPLE NO: _____ 1/1 _____																	
Rounded Total "As Is" Value of All Site Improvements \$1,200																	
IMPROVEMENT DESCRIPTION																	
Imp. No.	Structure Type	Quality	Class	Wall Type	Floor Type	Electrical	Plumbing	Diameter	Height	Age	TEL	REL	EA	Physical %	Other %	Total %	% Good
1	Septic																
2	Well																
3	Lagoon																
4																	
IMPROVEMENT COMPUTATIONS																	
Imp. No.	Page	Base Costs	Size	Hght.	Time	Local	Other	Adjusted Cost	Area	Total Basic Cost	Misc.	RCN	% Gd	RCNLD			
1	STC Septic Study																
2	STC Well Study																
3	STC Lagoon Study																
4																	
														Septic Well Lagoon Depreciated Value \$0			
														"As Is" Value of Other Site Improvements \$1,200			
														Total "As Is" Value of All Site Improvements \$1,200			
														Rounded Total "As Is" Value of All Site Improvements \$1,200			
Comments:																	
Subject has minimum landscaping along with concrete driveway.																	
Other Site Improvements Generally Include: Driveway, walkways, yard/landscaping, fencing, etc.																	



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## STC Input Data Report

Estimate Number: 405  
Category: ESTR

### General Information

#### Building Data

Residence Type: Single-family Residence  
Style: Bi-level  
Total Floor Area: 1,258  
Quality: 2.5 Fair/Average  
Condition: 3 Average  
  
**Depreciation**  
Type: M&S Table, M&S Typical Life, Condition Adj.  
Cost as of: December, 2010  
Effective Age: 20  
Typical Life: 53  
Functional: \$0 plus 0%  
External: \$0 plus 10%

Apply all percentages to Replacement Cost New

Component	Units/%	Quality	Depreciation
Exterior Walls			
107 Frame, Siding, Vinyl	100%		
Roofing			
208 Composition Shingle	100%		
Heating/Cooling			
351 Warmed & Cooled Air	100%		
Miscellaneous			
601 Plumbing Fixtures (#)	8		
602 Plumbing Rough-ins (#)	1		
622 Raised Subfloor (% or SF)	100%		
641 Single 1-Story Fireplace (#)	1		
Appliances			
502 Automatic Appliance Allowance			
Floor Cover			
402 Automatic Floor Cover Allowance			
Basement			
801 Total Basement Area (SF)	1,175		



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Component	Units/%	Quality	Depreciation
803 Partition Finish Area (SF)	538		
805 Basement Garage, Single (#)	2		
<hr/>			
Porch/Deck			
901 Open Slab Porch (SF)	38		
903 Wood Deck (SF)	180		
<hr/>			
Land/Site			
691 Land Value (\$)	21,500		
694 Site Improvements, Undepreciated (\$)	1,200		

### Additions

#### Remarks

TEL is 53

Overall well kept home in area of similar style, quality, and age of homes.  
Siding and windows appear to be fairly new, roof is fair with older AC. Overall  
no maintenance concerns at this time.

A test was conducted on the local multiplier and it was determined that 10%  
extra depreciation is needed to calibrate the Marshall & Swift costs to this  
market area.

Using the Marshall Swift Residential Estimator a Cost approach value of \$120,700  
has been determined.

#### Notes

### Cost Adjustment

Local Multiplier:	1.01 (Default)	Local Multiplier Adjustment:	0 (Default)
Architect's Fees:	1.05 (Default)	Rounding Value:	1
Report Date:	12/2010 (Default)	Single-Line Backdate:	12/2010 (Default)
Base Date:	12/2010	Effective Age Adj. Value:	0 (Default)
Depreciation % Adj. Value:	0 (Default)	Energy Adjustment:	Moderate (Default)
Foundation Adjustment:	Moderate (Default)	Hillside Adjustment:	Flat
Seismic Adjustment:	No Adjustment	Wind Adjustment:	No Adjustment
Type Name:	None (Default)		



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### STC Cost Report

Cnty-Sample Number:	01-01
County Name:	Yancy
Parcel ID No.:	1-22-333-444-555
Year Built:	1975+-
:	
Situs Address:	123 Smith Street
City:	Anytown
State:	Missouri
Local Cost Code:	65300
:	
Intended User:	State Tax Commission of Missouri
Appraiser:	
Date of Inspection:	1/1/2011
Date of Appraisal:	01/01/2011
Single-family Residence	
Effective Age:	20
Cost as of:	December, 2010
Style:	Bi-level
Exterior Wall:	Frame, Siding, Vinyl 100%
Plumbing Fixtures:	8
Floor Area:	1,258 Square Feet
Quality:	2.5 Fair/Average
Condition:	3 Average

	Units	Cost	Total
Base Cost	1,258	56.86	71,530
Plumbing Fixtures	8	1,081.60	8,653
Composition Shingle	1,258	2.13	2,680
Raised Subfloor	1,258	7.24	9,108
Floor Cover Allowance	1,258	2.96	3,724
Warmed & Cooled Air	1,258	5.71	7,183
Plumbing Rough-ins	1	457.60	458
Single 1-Story Fireplace	1	2,990.00	2,990
Appliance Allowance	1	2,496.00	2,496
<b>Basic Structure Total Cost</b>	<b>1,258</b>	<b>86.50</b>	<b>108,822</b>
Total Basement Area	1,175	16.64	19,552
Partition Finish Area	538	24.51	13,186
<b>Subtotal Basement</b>			<b>32,738</b>
Open Slab Porch	38	6.33	241
Wood Deck	180	14.49	2,608
<b>Subtotal Extras</b>			<b>2,849</b>
<b>Replacement Cost New</b>	<b>1,258</b>	<b>114.79</b>	<b>144,409</b>
Physical + Functional Depreciation 23.0%			33,214
External Depreciation (10.0% RCN)			14,441
<b>Total Depreciated Cost</b>			<b>96,754</b>
Land			21,500
Site Improvements			1,200

Marshall & Swift/Boeckh, LLC and its licensors. Residential Estimator 7 - Standard  
Estimate: 405  
Date Printed: 5/6/2012  
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	Units	Cost	Total
<u>Non Building</u>			22,700
<u>Total</u>			<u>\$119,454</u>
<u>Total, Rounded to Nearest \$1</u>			<u>\$119,454</u>

Cost data by Marshall & Swift/Boeckh, LLC and its licensors.

#### Remarks

TEL is 53

Overall well kept home in area of similar style, quality, and age of homes.  
Siding and windows appear to be fairly new, roof is fair with older AC. Overall  
no maintenance concerns at this time.

A test was conducted on the local multiplier and it was determined that 10%  
extra depreciation is needed to calibrate the Marshall & Swift costs to this  
market area.

Using the Marshall Swift Residential Estimator a Cost approach value of \$120,700  
has been determined.

Marshall & Swift/Boeckh, LLC and its licensors. Residential Estimator 7 - Standard  
Estimate: 405  
Date Printed: 5/6/2012  
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Residential Sales Comparison Approach - Page 2		County-Sample No.	3 / 1																
<p>Value by Sales Comparison Approach</p> <table><tr><td>Land</td><td>\$22,700</td></tr><tr><td>Improvement</td><td>\$84,000</td></tr><tr><td>Total</td><td>\$116,700</td></tr></table>		Land	\$22,700	Improvement	\$84,000	Total	\$116,700												
Land	\$22,700																		
Improvement	\$84,000																		
Total	\$116,700																		
<p>Comparable Sales Comments</p> <p>All of the comparables are similar to the subject in all major facts and would appear to be a similar buyer profile. All of the sales were built in the same time frame as the subject and have had similar maintenance over the years and exhibit a similar overall condition. There were few adjustments necessary because of the good comparability of the sales to the subject.</p> <p>The sales information in the neighborhood does not support a time adjustment. It appears that values have stayed the same in this area of affordable homes since 2007, but there is no evidence of a market decrease in this neighborhood. The appraiser did not locate any foreclosure related activity in the area and local Realtors have confirmed that the particular neighborhood has not suffered from the declining/foreclosure areas in other parts of the community.</p> <p>All of the comparables are very similar and none excel over the others in comparability. The appraiser gave equal weighting to the sales as they are all equal in their reliability as value indicators.</p>																			
<p>Reconciliation:</p> <p>All of the comparables are very similar and none excel over the others in comparability. The appraiser gave equal weighting to each of the sales as they are all equal in their reliability as value indicators. A range of \$115,575 to \$117,250 is shown. \$116,700 is used to indicate final value for the subject.</p>																			
<p>INCOME APPROACH (IF APPLICABLE)</p> <table><tr><td>Monthly Rent Amount</td><td>Gross Rent Amount</td><td>Sales Price</td><td>GRM</td></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td>Estimated Monthly Market Rent \$</td><td>x</td><td>Gross Rent Multiplier</td><td>= \$</td></tr><tr><td colspan="4">Indicated Value by Income Approach</td></tr></table> <p>Summary of Income Approach including support for market rent and GRM/Reconciliation:</p> <p>The subject is in a neighborhood of owner-occupied housing with no rental data available; therefore the income approach was not applicable.</p>				Monthly Rent Amount	Gross Rent Amount	Sales Price	GRM					Estimated Monthly Market Rent \$	x	Gross Rent Multiplier	= \$	Indicated Value by Income Approach			
Monthly Rent Amount	Gross Rent Amount	Sales Price	GRM																
Estimated Monthly Market Rent \$	x	Gross Rent Multiplier	= \$																
Indicated Value by Income Approach																			



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#### COMPARABLE IMPROVEMENT SALE PHOTOGRAPH SHEET

COUNTY-SAMPLE NUMBER: 01/01



SALE 1 DESCRIPTION:

129 Smith Street



SALE 2 DESCRIPTION:

199 Good Luck Lane



SALE 3 DESCRIPTION:

138 Smith Street



SALE 4 DESCRIPTION:

1204 Simple Street



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### 3. EXTERNAL REVIEW - County Meeting

The external review phase is that part of the process that allows the assessor to have input into the appraisal study and may include a meeting at their request.

Upon completion of the internal review, the Tentative Ratio Study is completed. The individual samples, their assessment, and staff appraised values are detailed in a Ratio Report, a corresponding Statistical Report in sample order, and a corresponding Statistical Report in Ratio Order. These three reports along with a digital copy of the Ratio appraiser's county work are provided to the county assessor for review. The Ratio appraiser's county work will include each individual appraisal, special studies performed, county-city data, flood maps if required, etc.

The purpose of the external review is to secure any additional information that may assist the Commission in completing a fair and impartial study. The type of information typically obtained includes additional sales information, local factors that may have an impact on value, identification of incorrect parcels, land classification information, etc.

A member of the Local Assistance staff contacts the assessor to ask if a meeting to discuss the appraisals is wanted. At the meeting the appraiser receives input along with supporting documentation from the assessor on those properties on which the assessor wishes to comment. The comments are recorded on the County Meeting Review Form as shown in **Exhibit 4.18**. The purpose of the meeting is to obtain additional information, discuss the statistics that appear on the Statistical Report and to record any comments and concerns.



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#### Exhibit 4-18

### County Meeting Review Form

County Name:

Date:

Review Appraiser:

Appraiser:

<b>Sample #</b>	<b>Original Value:</b>	<b>Final Value:</b>
<b>Discussion of Assessor's Issues</b>	<b>Reconciliation Comments:</b>	

<b>Sample #</b>	<b>Original Value:</b>	<b>Final Value:</b>
<b>Discussion of Assessor's Issues</b>	<b>Reconciliation Comments:</b>	

<b>Sample #</b>	<b>Original Value:</b>	<b>Final Value:</b>
<b>Discussion of Assessor's Issues</b>	<b>Reconciliation Comments:</b>	

<b>Sample #</b>	<b>Original Value:</b>	<b>Final Value:</b>
<b>Discussion of Assessor's Issues</b>	<b>Reconciliation Comments:</b>	



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After each meeting, the appraiser and review appraiser conduct site inspections of any properties for which new sales information is provided. They also re-inspect any property that requires a second review based upon information provided at the meeting.

After the meeting and any additional field reviews are completed, the appraiser and appraiser supervisor meet to review the appraisals in light of the comments and information obtained at the meeting. When an adjustment or change is warranted, they will then document their recommendation on the County Meeting Review Form. The appraiser will make the necessary changes in accordance with their agreed recommendations.

The final step in this part of the external review process is the generation of a revised ratio, referred to as the **Final Ratio**, and the redistribution of the final results to the county assessor.

## 4.8 DECISION MODEL

The Decision Model is the logical process to determine if a county is in compliance with State Tax Commission criteria for acceptable assessment performance. The diagrams on the following pages are used to illustrate the necessary steps used in the decision making process.

### 1. RESIDENTIAL DECISION MODEL

Beginning with the 2015 ratio study, there is a different decision model process for Traditional Sales Studies and Random Appraisal Studies.

For residential property, the Commission attempts to perform a Traditional Sales Study in all 115 assessment jurisdictions. If the Traditional Sales Study cannot be completed, then the Random Appraisal Study will be utilized.

For agricultural and commercial property, the Commission only utilizes Random Appraisal Studies.

The diagrams on the following pages illustrate the steps in the decision model process for residential property.



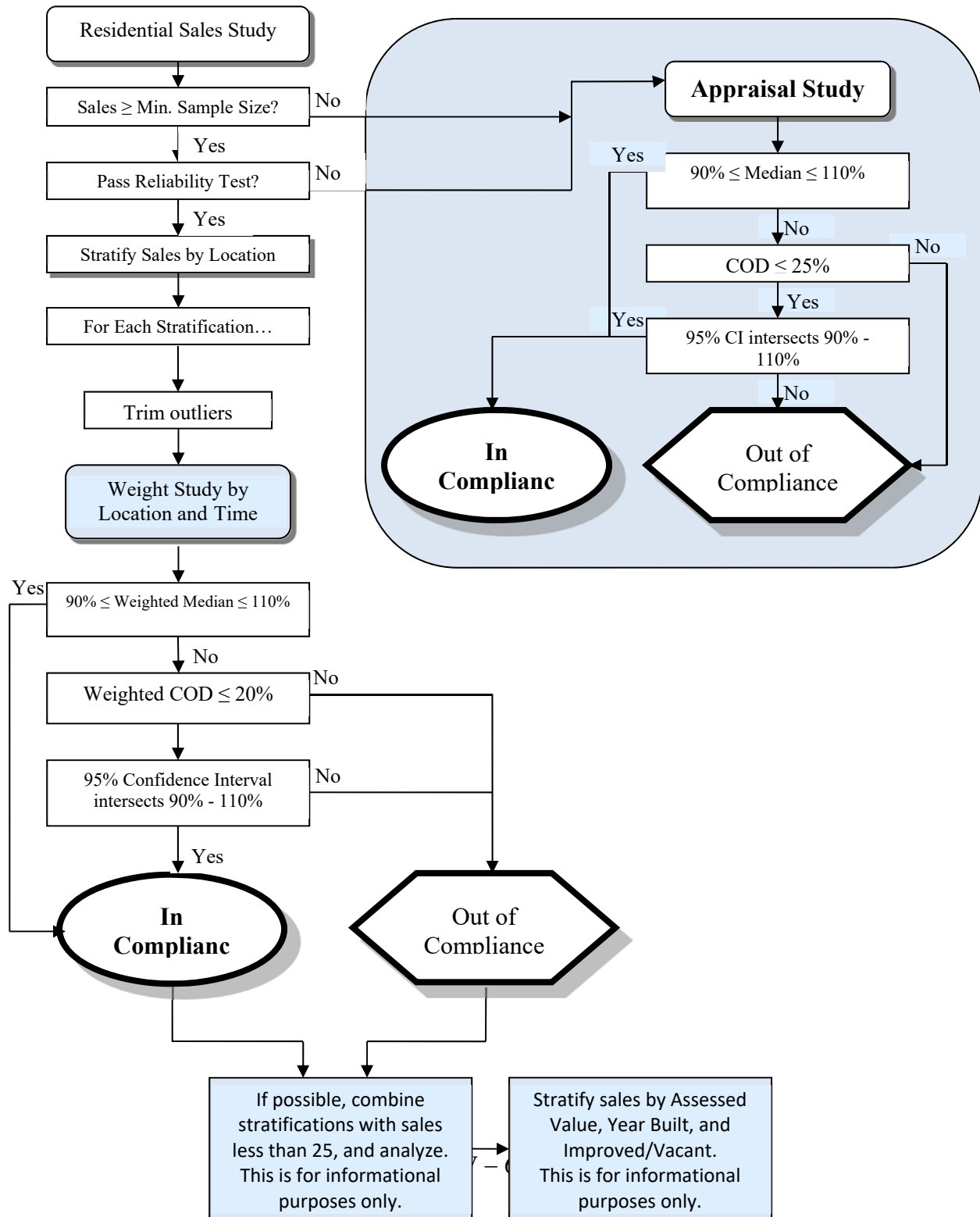
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#### A. RESIDENTIAL SALES STUDY

Further clarification on the Decision Model on the previous page:

- Sales information and other data is collected from county assessors.
- A minimum number of sales is determined to reach an adequate sample size, taking sales from 6 months to up to 4 years into the past.
- A Reliability Test is performed to ensure the sales are representative and that the data is reliable.
- The sales are trimmed to remove influential outliers.
- Each sale is given a weight determined by the date of the sale.
- Sales are also given weight determined by the parcel's location, with more populous regions being given more weight than less populous regions.
- The STC defaults to school district as the preferred location variable, however the county can request other location variables.
- If the weighted median is within 90%-110%, the county is in compliance.
- If the weighted median is outside of the 90%-110% requirement, then the COD (Coefficient of Dispersion) is observed. If the COD is less than 20% and the weighted median 95% confidence interval overlaps 90% or 110%, the county is in compliance.
- If the median is outside of the 90%-110% requirement and the COD is greater than 20% or the confidence interval does not overlap 90% or 110%, then the county is out of compliance.

Stratification studies are done regardless of the outcome of the Sales Study, giving assessors information for different divisions of their county's sales.

- Each stratification is identified and observed individually in the study.
- In the case of the location stratification, if there are at least 25 sales in a location, then the sales ratios are trimmed and used to analyze properties in the area.



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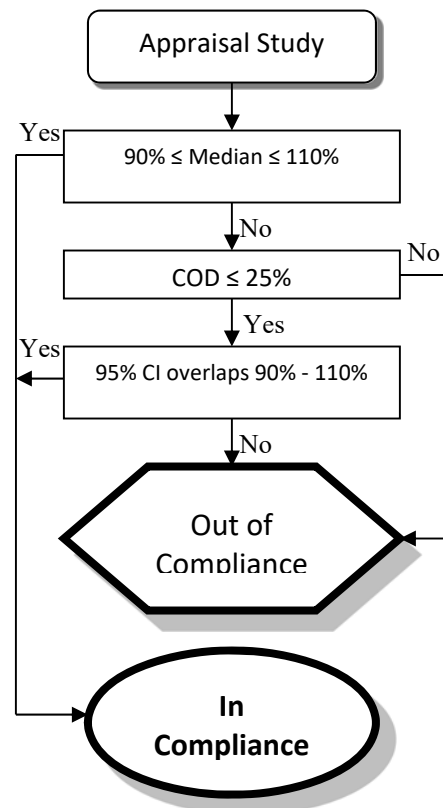
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- If there are less than 25 sales in any location, then all locations with fewer than 25 sales are identified and then combined together.
- Each subset of sales (each school district, generally) is analyzed and the statistics for the ratio data is calculated and weighted by time. Individual location statistics are also provided to the assessor for informational purposes.
- The sales are also stratified by age (the year the building on the property is built), the assessed value, and whether the property is vacant or improved. These are split up into equal portions, usually quartiles, and each one is analyzed separately, providing information to the assessor.

### B. RESIDENTIAL APPRAISAL STUDY

- A random appraisal study is performed for approximately 25 randomly selected parcels in the county.
- If the median is within the 90% - 110% range, then the county is in compliance.
- Otherwise, if the median is outside of the 90%-110% range, then the COD is observed.
- If both median and COD are out of tolerance, then the county is out of compliance.
- If the COD is less than 25%, then the median confidence interval must overlap either 90% or 110% to be in compliance.







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## 2. AGRICULTURAL & COMMERCIAL DECISION MODEL

The decision model for agriculture and commercial property follows similarly to the residential decision model for the appraisal study (shown above). The only exceptions are that the allowable COD increases to 30% for agricultural and commercial property and these studies utilize approximately 30 samples as these subclasses have more variability than the residential subclass.

For agricultural or commercial appraisal studies, if the median is outside of the 90%-110% range, then the coefficient of dispersion must be less than 30%. If the COD is less than 30%, then the median confidence interval must overlap 90% or 110%.

### 4.9 STATISTICS

**Statistics** is the branch of applied mathematics that concerns itself with the collection of quantitative data, testing inferential hypotheses, and estimating population parameters using probability theory.

The statistics used by the Commission begins with a defined population. A **population** is the set of all entities the study finds of interest. All vacant and improved parcels residing in the residential subclass comprises the residential population for that county. A **simple random sample** is a representative subset of the population. A study is said to be **random** if each individual from the population has an equal chance of entering the set of sample selections. Samples are **independent** if the value or results of one individual does not affect another. The Commission utilizes both random (appraisal studies) and non-random (sales studies) sampling in the performance of ratio studies.

**Data**, the collection of factual information, is drawn from the study of each individual from the sample. The Commission uses both qualitative and quantitative values to form inferences that justify hypotheses. An **inference** is the deductive and inductive logical reasoning involved in forming a conclusion or premise. A **statistic** is the arithmetic metric that is derived from an inference to describe a sample. Statistics are often considered to be estimates that describe the population's true distribution and attributes. Examples of statistics include the sample mean, and the sample variance,  $s^2$ . A **parameter** is an estimate of the population metrics. Such examples of a parameter would be the population mean,  $\mu$ , and the population variance,  $\sigma^2$ . A **census** occurs when the entire population is included in the sample. It should also be known that statistics used to describe a sample are denoted with English letters whereas parameters are symbolized with the Greek alphabet.



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**Descriptive statistics** summarize the distribution of the collected data. Knowing such information provides the ability to analyze and interpret characteristics that will be important for the study. The following sections list the important descriptive statistics used by the Commission in the performance of ratio studies.

### 1. MEASUREMENTS OF CENTRAL TENDENCY

The **mean**, also known as the arithmetic average, is created by adding together all individual samples and dividing by the number of samples. The sample mean  $\bar{x}$  is computed as follows:

Let  $n$  represent the number of observations in the sample.  
Let  $x_i$  represent the  $i^{\text{th}}$  observation of the sample.

$$\bar{x} = \frac{x_1 + x_2 + \dots + x_{n-1} + x_n}{n} = \frac{\sum_{i=1}^n x_i}{n}$$

The mean ratio is a helpful statistic. Some advantages of using the mean ratio include the ease in understanding the concept, the value of every ratio is considered, and further statistical applications can be used that are based around the value of the mean.

Table 1

Sample	Assessed Value	Sale Value	Ratio	Ratio/0.19
1	\$5,780	\$42,200	0.1370	72.1%
2	\$100	\$500	0.2000	105.3%
3	\$5,720	\$31,800	0.1799	94.7%
4	\$3,230	\$17,400	0.1856	97.7%
5	\$11,540	\$59,100	0.1953	102.8%
6	\$1,330	\$16,200	0.0821	43.2%
7	\$4,580	\$25,900	0.1768	93.1%
8	\$3,290	\$20,800	0.1582	83.3%
9	\$3,840	\$22,300	0.1722	90.6%
10	\$5,350	\$35,700	0.1499	78.9%
11	\$160	\$700	0.2286	120.3%

\*Ratio/0.19 considers the residential assessment rate



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For the mean ratio from the data provided in **Table 1**, one would add all of the ratio values together and divide by the number of samples. In this scenario,

$$\bar{x} = \frac{0.1370 + 0.2000 + \dots + 0.1499 + 0.2286}{11} = \frac{1.8655}{11} = 0.1696 \Rightarrow 0.1696 / 0.19 = 89.26\%$$

The mean is a biased statistic. A statistic is biased when the expected value is not equal to the population's true value. The mean is biased because of the inherent properties of ratios. A ratio that is low can be overwhelmed by a ratio that is high. When a ratio of 50% (1:2) is averaged with a ratio of 200% (2:1), the result is 125% (5:4). The ratios signaling undervalued properties have a finite range of greater than 0 to less than 1, (0,1), and the ratios signaling overvalued properties have an infinite range of greater than 1 to infinity, (1,∞).

The **median**,  $\tilde{x}$ , is the middle observation when the values of the data are arrayed (listed from smallest to largest; or listed from largest to smallest).

If the number of observations is odd,

$$\tilde{x} = \left( \frac{n+1}{2} \right)^{th} \text{ ordered value.}$$

If the number of observations is even,

$$\tilde{x} = \frac{\left( \frac{n}{2} \right)^{th} + \left( \frac{n+1}{2} \right)^{th}}{2} \text{ ordered values.}$$

That is, if the number of observations is odd, the middle observation of the ordered data is the median. When the number of observations is even, the average of the two middle-most ordered observations is the median.

**Table 2**

Sample	Assessed Value	Sale Value	Ratio	Rank
6	\$1,330	\$16,200	0.0821	1
1	\$5,780	\$42,200	0.1370	2
10	\$5,350	\$35,700	0.1499	3
8	\$3,290	\$20,800	0.1582	4
9	\$3,840	\$22,300	0.1722	5
7	\$4,580	\$25,900	0.1768	6
3	\$5,720	\$31,800	0.1799	7
4	\$3,230	\$17,400	0.1856	8
5	\$11,540	\$59,100	0.1953	9
2	\$100	\$500	0.2000	10
11	\$160	\$700	0.2286	11



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The median ratio is an ordered statistic that concerns itself only with the middlemost value(s). It is determined by listing the ratios in order and finding the one in the middle. **Table 2** shows the ratios listed in an ascending (increasing) order.

Since there are 11 samples,  $n=11$ .

$$\tilde{x} = \left( \frac{n+1}{2} \right)^{th} = \left( \frac{11+1}{2} \right)^{th} = \left( \frac{12}{2} \right)^{th} = 6^{th} = 0.1768 \Rightarrow 0.1768 / 0.19 = 93.05\%$$

The **weighted median** is a statistic with often similar results to the median, but accounting for weight toward certain aspects. In sales studies, we weight the median by both time (when the sale was made in comparison to the date of assessment), and location (most often school districts). It is calculated by assigning a weight to each sale ratio, ordering the data from lowest ratio to highest, and taking the cumulative weight at each ratio. The ratios that lie just prior and just after the middle weighting are averaged, giving the weighted median.

For example, the following data:

Sample	Assessed Value	Sale Value	Ratio	Rank	Weight	Cumulative Weight
6	\$1,330	\$16,200	0.0821	1	0.97431976	0.97431976
1	\$5,780	\$42,200	0.137	2	0.37591251	1.35023227
10	\$5,350	\$35,700	0.1499	3	0.68291225	2.03314452
8	\$3,290	\$20,800	0.1582	4	0.76941304	2.80255756
9	\$3,840	\$22,300	0.1722	5	0.87799612	3.68055368
7	\$4,580	\$25,900	0.1768	6	0.79930407	4.47985775
3	\$5,720	\$31,800	0.1799	7	0.58902894	5.06888669
4	\$3,230	\$17,400	0.1856	8	0.97559446	6.04448115
5	\$11,540	\$59,100	0.1953	9	0.96272843	7.00720958
2	\$100	\$500	0.2	10	0.83711521	7.84432479
11	\$160	\$700	0.2286	11	0.66527775	8.50960254



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The total cumulative weight of the data is 8.5096. Half this number is 4.2548. The weights prior and after this number are 3.6805 and 4.4798. The ratios at these weights are .1722 and .1768. Averaging these two numbers gives us

$$(.1722 + .1768) / 2 = .3490 / 2 = .1745 \Rightarrow .1745 / .19 = \mathbf{91.84\%}$$

The **weighted mean** is another descriptive statistic that describes central tendency. Weighted means generally are used in physics to describe moments of inertia and the center of mass. However, the weighted mean can also be applied to population studies in statistics. The Commission measures the weighted mean in the ratio study. It is calculated by summing both the individual assessed values and the individual indicators of market value, sales prices or appraised values.

That is, for the weighted mean,  $\bar{x} = \frac{\sum \text{Assessed}}{\sum \text{Appraised}}$ .

The weighted mean reflects the relationship of the total assessed value to the total market value of each subclass. From **Table 1**, the weighted ratio would be discovered using the following formula:

$$\hat{x} = \frac{\sum \text{Assessed}}{\sum \text{Appraised}} = \frac{\$44,920}{\$272,600} = 0.1648 \Rightarrow 0.1648 / 0.19 = 86.74\%$$

## 2. MEASUREMENTS OF VARIATION

The **Price Related Differential** (PRD) is found by dividing the mean by the weighted mean. This comparison tests for equity between low market value properties and high value properties. Disparate values suggest that inequities may exist. Therefore, the State Tax Commission has adopted the *IAAO Standard on Ratio Studies* recommendation that price related differentials should lie between 0.98 and 1.03.

A PRD above 1.00 suggests that the assessment values placed on high-value parcels are relatively lower than the assessment values placed on low-value parcels. The ratios for higher-valued properties would tend to be below the ratios for lower-valued properties.

A PRD below 1.00 suggests that the assessment values placed on high value parcels are relatively higher than the assessment values placed on low-value parcels. The ratios for higher-valued properties would tend to be above the ratios for lower-valued properties.



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From the example above,

$$PRD = \frac{\text{Mean}}{\text{WeightedMean}} = \frac{89.26\%}{86.74\%} = 1.029$$

The **Coefficient of Dispersion (COD)** is a measurement of variability that assesses the horizontal uniformity of property. A lower Coefficient of Dispersion implies a lesser amount of variability. The COD measures the average percentage deviation of the ratios from the median ratio and is calculated from the following steps:

1. Subtracting the median from each ratio.
2. Taking the absolute value of the calculated differences.
3. Summing the absolute differences.
4. Dividing by the number of ratios to obtain the “average absolute deviation.”
5. Dividing by the median.
6. Multiplying by 100.

From the data in **Table 1**, the coefficient of dispersion has been calculated:

Ratio	0.0821	0.1370	0.1499	0.1582	0.1722	0.1768	0.1799	0.1856	0.1953	0.2000	0.2286
Step 1	-0.0947	-0.0398	-0.0269	-0.0186	-0.0046	0.0000	0.0031	0.0088	0.0185	0.0232	0.0518
Step 2	0.0947	0.0398	0.0269	0.0186	0.0046	0.0000	0.0031	0.0088	0.0185	0.0232	0.0518
Step 3	0.2900										
Step 4	0.0264										
Step 5	0.1491										
Step 6	14.9116 %										

**Quartiles**, like medians, are ordered statistics based on the  $n^{\text{th}}$  observation. The median divides the data set into two distinct subsets: a lower subset and an upper subset. The lower subset consists of all data ranging from the minimum value to the median and the upper subset consists of all data ranging from the median to the maximum value. The **first quartile** is the median of the lower subset and the **third quartile** is the median of the upper subset. That is, when the data is ranked in ascending order, the data ranked at the 25<sup>th</sup> percentile is the first quartile and the data ranked at the 75<sup>th</sup> percentile is the third quartile. (The median can sometimes be considered as the second quartile.)



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First Quartile	$\tilde{x}_1 = \left( \frac{n+1}{4} \right)^{th}$ ordered value.
Third Quartile	$\tilde{x}_3 = \left( \frac{3n+3}{4} \right)^{th}$ ordered value.

The **interquartile range** (IQR) is a metric that will help detect **outliers**. An outlier is an unusual observation that lies well below or well above what is expected. The interquartile range is calculated by subtracting the first quartile from the third quartile, taking the absolute value, and multiplying that by 1.5. Take this quantity and subtract it from the first quartile. That is the minimum value for the IQR. The maximum value for the IQR is obtained by adding the same metric to the third quartile.

$$IQR = (\mathcal{Q}_1 - |\mathcal{Q}_3 - \mathcal{Q}_1| * 1.5, \mathcal{Q}_3 + |\mathcal{Q}_3 - \mathcal{Q}_1| * 1.5)$$

**Extrema** are outliers that are considered to be implausible and have a heavy influence on many descriptive statistics such as the mean. Extrema ranges are calculated using 3.0 instead of 1.5 from the formula listed above.

$$EQR = (\mathcal{Q}_1 - |\mathcal{Q}_3 - \mathcal{Q}_1| * 3, \mathcal{Q}_3 + |\mathcal{Q}_3 - \mathcal{Q}_1| * 3)$$

#### Example

From the data in Table 2 in which the values are ranked, the first quartile would be the 3<sup>rd</sup> observation, 0.1499 and the third quartile would be the 9<sup>th</sup> observation, 0.1953. The interquartile range would be found as follows:

$$IQR = (0.1499 - |0.1953 - 0.1499| * 1.5, 0.1953 + |0.1953 - 0.1499| * 1.5)$$

$$IQR = (0.1499 - |0.0454| * 1.5, 0.1953 + |0.0454| * 1.5)$$

$$IQR = (0.1499 - 0.0454 * 1.5, 0.1953 + 0.0454 * 1.5)$$

$$IQR = (0.1499 - 0.0454 * 1.5, 0.1953 + 0.0454 * 1.5)$$

$$IQR = (0.1499 - 0.0681, 0.1953 + 0.0681)$$

$$IQR = (0.0818, 0.2634)$$



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The State Tax Commission's trimming process uses the Interquartile Range method (with a 3.0 coefficient) applied to the logarithmic ratios.

1. Calculate the ratios for each individual in the sample.
2. Transform the ratios using the natural logarithm.
3. Compute trimming parameters using the logarithmic ratios.
  - a. First quartile  $Q_1$ ; (25<sup>th</sup> Percentile)
  - b. Third quartile  $Q_3$ ; (75<sup>th</sup> Percentile)
  - c. Interquartile Range;  $|Q_3 - Q_1|$
4. Ratios below the lower limit,  $Q_1 - |Q_3 - Q_1| * 3$ , are removed.
5. Ratios above the upper limit,  $Q_3 + |Q_3 - Q_1| * 3$ , are removed.

The **standard deviation** measures a sample's level of variability and spread. Calculating the standard deviation of a distribution without the aid of a computer spreadsheet application can easily become a difficult task.

Step	The standard deviation of a sample is	$s = \sqrt{\frac{\sum_{i=1}^n (x_i - \bar{x})^2}{n - 1}}$
1	First, subtract the mean from each individual, $x_i$	$x_i - \bar{x}$
2	Square each of these differences.	$(x_i - \bar{x})^2$
3	Add each of these differences together.	$\sum_{i=1}^n (x_i - \bar{x})^2$
4	Divide the sum of the squared differences by the number of observations minus 1.	$\frac{\sum_{i=1}^n (x_i - \bar{x})^2}{n - 1}$
5	Take the square root of this value.	$s = \sqrt{\frac{\sum_{i=1}^n (x_i - \bar{x})^2}{n - 1}}$





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Using the data from Table 1, the Standard Deviation about the Mean would be calculated as follows:

Ratio	0.0821	0.1370	0.1499	0.1582	0.1722	0.1768	0.1799	0.1856	0.1953	0.2000	0.2286
Step 1	-0.0875	-0.0326	-0.0197	-0.0114	0.0026	0.0072	0.0103	0.0160	0.0257	0.0304	0.0590
Step 2	0.0077	0.0011	0.0004	0.0001	0.0000	0.0001	0.0001	0.0003	0.0007	0.0009	0.0035
Step 3	0.0147										
Step 4	0.0015										
Step 5	0.0384										

To calculate a **sample's variance**, another measurement of variability in a sample, use the same procedure as outlined above, but stop after step 4. That is, do not find the square root.

The **standard error in a mean ratio** measures the extent to which each individual ratio in a sample differs from that of the predicted value. The standard error of the mean ratio can be estimated using a predicted value of the population's standard deviation through the standard deviation of the sample. Standard Error

$$\text{of Mean Ratio} = \frac{s}{\sqrt{n}} .$$

Example:

Recall  $s=0.0384$ , as observed in the standard deviation calculation.

Recall  $n=11$ , which is the sample size.

$$\text{The standard error of the mean ratio is } = \frac{s}{\sqrt{n}} = \frac{0.0384}{\sqrt{11}} = 0.01158$$

A **confidence interval** is a range in which the true estimator of the population is expected to lie based on a predetermined percent of accuracy. For example, a 95% confidence interval gives a range of values. These values predict that the true mean of the population from which the sample was taken lies within the interval. As the confidence level decreases from 95%, the range becomes smaller. Similarly, if the confidence level increases from 95%, the range becomes larger.

The **median confidence interval**, unlike the confidence interval about the mean, is not based on the assumption of a normal distribution. It is found by ranking the data: sorting the data in order and assigning each data entry a number based on the value in relation to the others. If two or more data points are tied for the same rank, the rank assigned to these values is averaged.

After ranking the data, determine if the number of entries is even or odd. If the number is even, the number of observations one must count up and down from the median to find the control limits for the 95% confidence interval about the median is found by:

$$j = \frac{1.96 \times \sqrt{n}}{2}$$



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If the number of observations is odd,

$$j = \frac{1.96 \times \sqrt{n}}{2} + 0.5$$

After determining the value of  $j$ , round the value up to the highest integer. From the values that are ranked, find the median, and count up and down  $j$  data entries to find the limits of the confidence interval.



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## 5.0 INTRODUCTION

The office of assessor is probably the single most responsible office connected with the entire system of state and local taxation. In 2006, the property tax generated in excess of 5.5 billion dollars in revenue for local governmental entities. The work of the assessor lies at the very foundation of the system. Without effective administration, the burdens of taxation cannot be fairly distributed and the revenues needed to support government and its institutions cannot be generated.

The assessor's task of preparing an assessment roll which accurately reflects the true value in money of all taxable property within the county, in an efficient manner, is a tremendous challenge. Under Missouri law, assessments are set at a percentage of true value in money. Section 137.115 RSMo defines the percentages for each subclass of real and personal property. For example, residential real property is assessed at 19% of true value in money and most personal property is assessed at 33 1/3% of true value in money. Assessment accuracy refers to the degree to which each property in the county is assessed relative to the legally mandated percentage of true value. Assessment efficiency refers to the cost of assessment operations. The cost of assessment operations will vary with the type and nature of property within the county. Farm and commercial properties, for example, are more difficult and costly to appraise accurately than residential properties. Similarly, the appraisal of older custom built homes generally entails more time and expense than newer tract homes.

## 5.1 COMPONENTS OF AN EFFECTIVE ASSESSMENT SYSTEM

Knowing that an appraisal is an estimate of value and that an assessment is a statutory regulation of that value does not comprise the development of an assessment system. There are certain key components common to an effective assessment system:

- |                                     |   |
|-------------------------------------|---|
| <b>A.    <u>Administration</u></b>  | Adequate budget, competent staff, effective internal controls, data processing and storage, and public relations. |
| <b>B.    <u>Records</u></b>         | Accurate sales data, property ownership and characteristics files.  |
| <b>C.    <u>Assessment Maps</u></b> | Maps which reflect ownership configuration and parcel identification.   |

**D.     Data Collection**

Required data, accurate physical and economic data.

- |  |  |
|--|--|
| <b>E.     <u>Valuation</u></b>           | Effective cost approach, effective income approach, and effective sales comparison approach. |
| <b>F.     <u>Statistical Studies</u></b> | Measure accuracy and uniformity of assessments.  |

In total, these elements represent the foundation of a cost-effective assessment system. Each is briefly described below:

**A.     Administration**

An adequate budget is the first requirement of an effective assessment system. The budget must be sufficient to develop and maintain an accurate data base and to provide the personnel and support resources necessary to apply sound appraisal techniques. Standards for assessment budgeting are difficult to specify due to the complexities involved in the assessment system and the varying status of an individual assessment county within that system. The cost of a reappraisal program, beginning with the establishment of an effective mapping system, accurate data collection, and the development of accurate valuations, on a per parcel cost basis, would be higher than that of conducting an ongoing assessment operation. The total cost of the statewide reassessment program completed in 1985 was \$121,826,966. The cost per parcel ranged from \$25.65 to \$73.24, with an average per parcel cost of \$49.86, over the course of the program. In 2006, the assessment maintenance program cost on a per parcel basis ranged from \$7.77 to \$29.06 with an average cost of \$16.58 per parcel.

Staff salaries tend to represent 80-85% of an assessment budget. A staff should consist of competent and qualified personnel. Appraisers either should have had prior experience or should receive on-the-job training. In addition, appraisers should be encouraged to achieve designation and attend advanced appraisal courses, seminars, and workshops. All personnel should be utilized so as to take advantage of their appropriate knowledge and skills.

Internal controls bring discipline to an assessment system. The assessor should maintain at least the following internal controls:

- An organizational plan

- Statements of duties and responsibilities
- Standards of practice
- Edit procedures
- Time and production reports
- Security procedures

Data processing systems reduce the time spent on routine clerical activities, speed mathematical computations, and generally improve assessment efficiency. In addition, computers can increase the accuracy of assessments by improving the quality and accessibility of data. Computers can be utilized in a number of assessment-related applications, including the storage of ownership files, automating the collection, organization, analysis of sale data and by automating the appraisal functions. In addition, computers are an effective tool for extracting the data for the myriad requests received by the assessor's office.

The assessor should not expect the installation of a data processing system to reduce the number of staff, nor to reduce the cost of operating the office. Major advantages of automation are that the same size staff should be capable of handling the increasing workload of the office for years to come with little or no additional help. With automation, staff should be able to perform a much better and more accurate job in less time and with less effort. Although an effective maintenance program can be accomplished without the use of data processing, given the ever increasing demands on the assessor's resources, automation represents one of the best ways to improve efficiency.

Extremely important in a good assessment maintenance program is sound public relations between the assessor, local officials and the taxpayers. The cooperation of the assessment office with both the individual taxpayer and citizen groups is important to ensure a wider understanding and support of systematic and uniform property assessments.

Good public relations require that the assessment official obtain and hold the respect and confidence of the taxpayer. Such respect and confidence is generated with the use of efficient, impartial, and effective methods and procedures. Whether on assignment in the field or in the office, the staff acts as official representatives of the assessor. It is, therefore, of the utmost importance that in all contact with property owners, tenants, and others, they conduct themselves so as to reflect credit to the organization and the work with which they are engaged. In any case, where an owner or occupant is

not clear about the purpose of field inspections and is reluctant to permit the inspection of the property, the assessor or deputy should explain briefly the objective of the field review. Such explanation will, in most instances, result in obtaining permission to proceed. Information gathered on the cost or appraised value of individual properties should be treated as private, although it is not confidential. Such information is critical in understanding the market, and should not be discussed or used for other purposes. The successful assessor conducts an open operation, explaining the assessment process as necessary, and responds promptly to inquiries and complaints. The more the assessor demonstrates that the responsibilities of the office are being performed effectively, efficiently and fairly, the more likely the public is to cooperate in return.

## **B. Records**

The records of an assessor's office provide the foundation of the assessment system. Before property can be appraised and thus assessed, it must be located and described, ownership must be identified and the characteristics particular to that property affecting value analyzed.

To aid in the identification of property ownership, an effective set of records must be maintained. Requisites to the preparation of an assessment roll of high quality are records that detail ownership, property description and quantities, and methods or procedures for analyzing market value. Ownership indexes, both alphabetical and geographical as well as street indexes are valuable auxiliary records.

For real property, ownership data was compiled from past assessment rolls, deeds, and other records for the mapping program initiated during the statewide reassessment. Since 1985, every county has successfully maintained the ownership maps and, in turn, real property records on an on-going map maintenance program. Personal property ownership is maintained by several methods. One is simply through the mailing of the annual personal property rendition. In many counties, assessment staff have developed procedures to update ownership data based on information provided in cooperation with the collector, the 911 system and local service utilities.

The property characteristic file contains the current physical description and quantities of property. The real property record card (PRC) is an essential part of every assessment office. Personal property is inventoried on individual renditions or lists. The primary purpose of both forms is to

provide a compact format for use in preparing a physical inventory of property in the county. Depending on the degree of automation, the inventory of both real and personal property may be accessed, which allows the assessor to systematically list the pertinent data required in making value estimates, record assessments, and facilitate comparisons of property of the same class.

Proper valuation depends on the successful development of base values or selection of valuation guides. For real property, the systematic recording of reliable sales information is an essential requirement of making equitable assessments. The assessor needs to be aware of the interactions of buyers and sellers in establishing market values. The basic premise is that the value of property tends to be indicated by sale prices of comparable properties. Therefore, a sales file furnishes the best evidence of value that the assessor can use. For personal property, procedures must be developed that allow the assessor to maintain valuation guides that reflect market value, for example, using published guides for automobiles or farm machinery.

### **C. Assessment Maps**

The assessor's office maintains a complete set of continuously updated assessment maps. Maps are fundamental to the assessment of real estate; they help determine the location of the property, indicate the size and shape of each parcel, and reveal its relation to pertinent features that affect value. It is a natural consequence that maps are a basic record in an assessor's office.

The use of assessment maps facilitates the identification of each parcel within a county and ensures that all lands are inventoried. Each parcel is assigned a parcel identifier or parcel number, which represents a specific land parcel and serves to reduce a lengthy legal description to a uniform and manageable expression. For more about the map and parcel numbering system, see section 5.7.

### **D. Data Collection**

Assessments can be only as accurate as the data on which they are based. Therefore, if property data is incomplete or inaccurate, even the best appraisal procedures and techniques cannot produce accurate value estimates. Checks on completeness and accuracy of data involve both visual inspections to obtain and verify data and data edits to ensure that the data has been recorded correctly. If the appraiser knows that these tasks have been done or completes these checks at the



time of the actual appraisal, the criteria for data completeness and accuracy may be presumed to have been met.

In order to keep abreast of construction or major remodeling activities that alter the property data base, it is helpful if the assessor regularly receives information about building permits, when available. However, building permits should not be relied upon as containing a complete record of construction and major remodeling activities. Physical inspections or field review should be conducted on a regular and systematic basis.

To help ensure personal property is properly reported, an assessor may consult printouts from the Missouri Department of Revenue for vehicle registrations or from the Federal Aviation Administration for aircraft listings. Other potential sources would include records from the county or city clerk's office for business licenses or published business directories.

#### **E. Valuation**

For most personal property, valuation is a matter of identifying a source or published value guide that lists market values for the type of property found in the county. For livestock, monitoring local market activity will reveal the typical current price. Business personal property is generally categorized as to its typical life expectancy and depreciation applied to original or current cost. Effective in TY2007, business personal property, put into service after 1/1/2006, is to be assessed based on acquisition cost and depreciated according to the class life as published by the Internal Revenue Service (IRS) and found in IRS Publication 946.

Traditionally, there are three basic approaches applicable to the valuation of real property. These approaches are: the cost approach, where value is measured by the cost to reproduce a property of like utility; the sales comparison or market data approach, where the value of the subject property is estimated by the sale of similar property; and the income approach, where value is defined as the present worth of future income benefits derived from the property.

#### **F. Statistical Studies**

Sale ratio studies are the fundamental means of measuring the accuracy of the appraisal process.

These studies should be made to determine the level and uniformity of appraisals of selected property categories for which sufficient sale data is available. The sale ratio indicates a relationship of appraised value to market value. It is found by dividing the appraised value of the property under consideration by its recent sale price.

$$\text{Ratio} = \frac{\text{Appraised Value}}{\text{Selling Price}}$$

For example, a residence that sold recently for \$115,000 had an appraised valuation of \$100,000 at the time of sale. Therefore, the ratio of appraised value to selling price is 87%.

$$\frac{\$100,000}{\$115,000} = .87 \text{ or } 87\%$$

Since transactions in the marketplace bring out good estimates of value, a sales ratio analysis can be the assessor's yardstick for measuring the assessment level. For a review of other statistical tools, see section 5.7.

## **G. Summary**

The nature of assessment clearly suggests the need for organization. In order for most assessors to approach their work in a systematic manner, the assessment function, its characteristics, and its political-economic environment should be examined briefly. The assessment function consists of the following basic elements:

- Discovery, the steps assessing officers must take to find and to describe taxable property
- Valuation, the appraisal of properties
- Listing, the keeping of records linking properties to their respective owners and the placing of assessed values and owner's names on the assessment roll.

Thus described, the assessment function appears relatively simple, while in reality, assessment is a complex process.

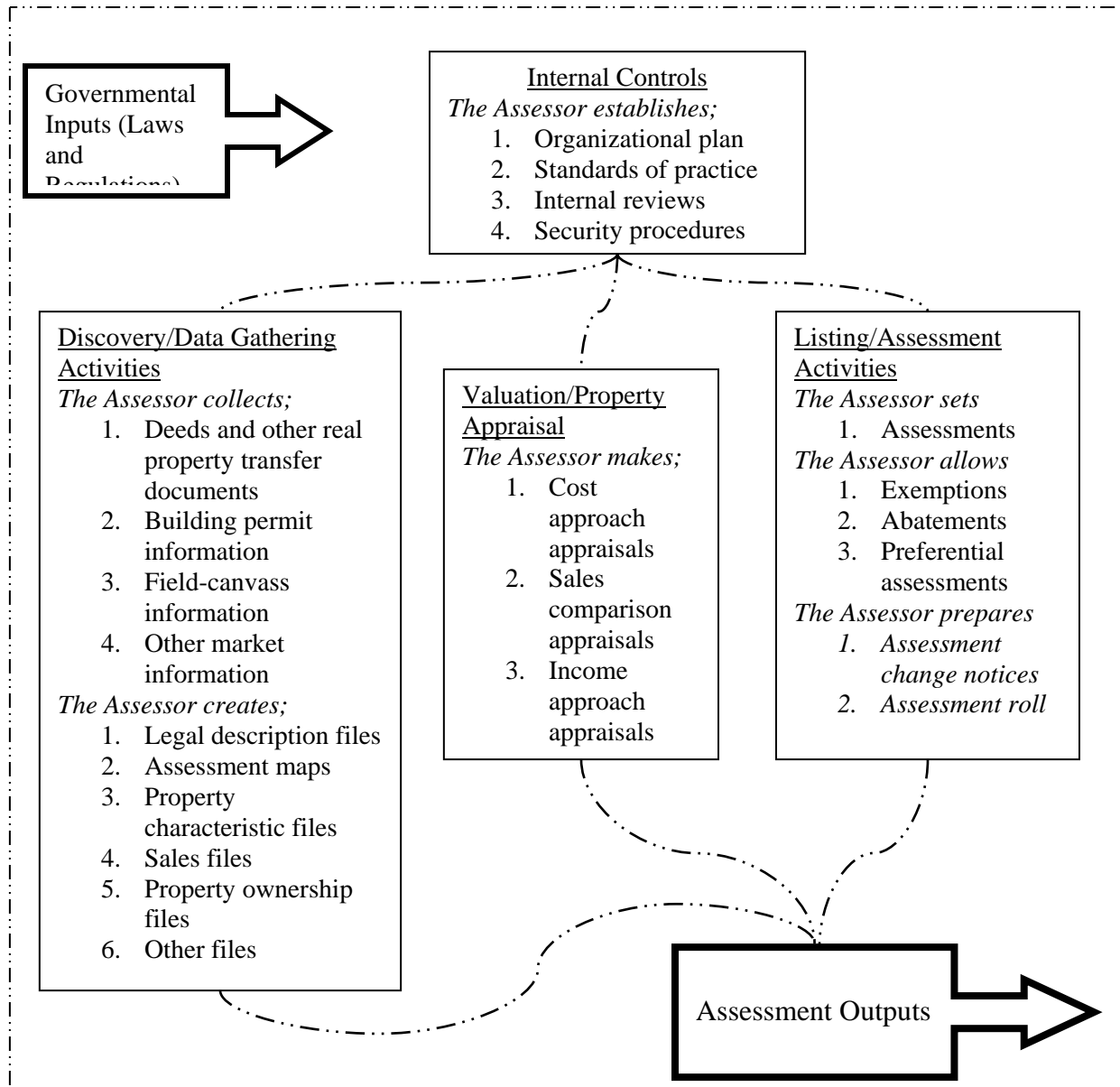
An appreciation of the characteristics of assessment is necessary for an understanding of assessment

operations and the recommendations made in this manual. The property assessment system consists of a systematic process designed to gather and collate factual data necessary to effectively carry out the assessment function. However, this system must operate within the bounds of the market and governmental environment in which both the public and the private sectors are acting, reacting, and interacting.

The system treats the discovery, listing, and valuation activities separately, although they are closely related in practice. The component parts of a real property assessment system, their interrelationships, and the flow of information in the system are illustrated below:

## EXHIBIT 5.1

## MAJOR ELEMENTS OF A REAL PROPERTY ASSESSMENT SYSTEM



## 5.2 THE MASS APPRAISAL PROCESS

Mass Appraisal is the systematic appraisal of groups of properties as of a given date using standardized procedures and allowing for statistical testing. More particularly, a mass appraisal system may be described as an orderly and comprehensive assemblage of facts, principles, and methods designed to carry out the assessment function effectively and efficiently in accordance with property tax policy. The term appraisal process is meant to encompass the techniques used by appraisers and assessors in formulating opinions of property values. It is an orderly procedure through which they are enabled to accomplish their objective--estimation of value. Also provided for are standards for a common terminology readily understood by those in the field of property valuation.

In short, it defines the problem, provides methods for solving the problem, and furnishes common appraisal language so that anyone informed on the subject readily understands the means through which a property value has been determined.

As the value of a property is the result of interactions within a constantly fluctuating marketplace, property value can never be absolutely measured or determined. The appraisal of property is not and never can be an exact science. An appraisal is an estimate of value, and as such, an absolute definitive value should not be expected, however, a reasonable estimate of value can be and should be obtained. Standards of reasonable performance do exist and there are reliable means of measuring and applying these standards.

Due to the large number of properties that must be appraised for assessment purposes, there is a point beyond which the appraisal process cannot be simplified if accurate results are to be obtained. There is also a point beyond which the process becomes so complicated the results will not justify the work and expense involved. It would be impractical to make a detailed, narrative type of appraisal on each property. Instead, a method of appraising on a volume or a mass basis has been

developed. When properly used, the mass appraisal process will, with few exceptions, give similar results as an appraisal made on an individual basis.

Basically, the same methods and procedures used for an individual appraisal are used in mass appraisal, although the application may be somewhat different. Appraisals made on an individual basis generally involve direct comparison between the subject and the specific properties. In mass appraisal work, a large volume of data (sales, income and expense data, construction cost and specifications) is developed into value indicators, or base unit values. When the base unit value is applied to a specific property, and modified by the adjustments applicable to that individual property, mass appraisal takes on the nature of direct comparison. The advantage and reason for using a mass appraisal system is to obtain accurate value estimates at a relatively low cost. Conducting a revaluation program requires careful planning.

Prior to planning any mass appraisal program, the assessment administrator must know:

- The condition of the present program
- The goals and standards which must be met
- The portion of present resources that may be reasonably allocated to the mass appraisal program
- What additional resources may be needed for the program
- The length of time available to complete the program
- The type of work activities required, and the volume of each type of work activity

After the above information is obtained, realistic plans can be formulated to meet the goals of a mass appraisal program.

The identification of available resources also has a major impact on goal establishments and the limitations placed by the availability of resources may, in some cases, virtually pre-plan the mass appraisal program. Resources that may be required by the assessor can be divided into four major areas: (1) Financial; (2) Personnel; (3) Data Elements; and (4) Data Processing.

The planning of a mass appraisal program is analogous to the appraisal of an individual piece of

property in that it may be formulated in compliance with the appraisal process.





**1. Define the Appraisal Problem**

The beginning point in any appraisal problem is the identification of the property to be appraised. The mass appraisal process begins with the discovery and identification of all parcels within the county. A parcel is defined as all contiguous land owned by the same legal entity and of a single use within a section. It may be delineated by a metes and bounds description, lot and block within a subdivision, or a combination of both. In a mass appraisal program, the identification of a particular piece of property is usually conducted on a geographical basis with the aid of current ownership maps. A system of continually updated ownership maps show the size, shape, and location of each parcel of real estate and ensures that all taxable parcels are listed on the assessment roll.

The ownership maps serve two important functions. One is that it provides an inventory of property and secondly, a system of parcel identification. The work of the assessor in both the office and the field requires constant reference to information relative to a particular parcel of property. By organizing the records by parcel number, property records can be efficiently referenced and indexed. In most counties, an alphabetical index file of ownership is maintained which facilitates locating data when only the owner's name is known.

Another important factor in defining the appraisal problem is the mix of property types. The property type mix varies from county to county, and has a great impact on the resources needed to complete the assessment update. In Missouri, real property assessments are required to be updated every two years, (in the odd numbered year), and knowing the quantity and types of property allows the assessor to better estimate the time frame, manpower needs and production targets. Property types can be defined any number of ways. Typically, assessors track the number of residential, agricultural and commercial parcels and whether they are improved or vacant. In counties with a large area owned by the federal government, a count of the exempt parcels may help the assessor to better estimate the resources needed. For a detailed discussion on estimating manpower, time frame or production targets, see the text on assessment maintenance plans - personnel estimation charts, section 5.3.

After the property has been identified, the rights of ownership pertaining to that property must be identified. In the majority of instances, property should be appraised as if owned in a fee simple title, that is, all rights of ownership of the property are retained by the owner of the fee interest. However, there are exceptions, probably the most notable of which is that of severed mineral and surface rights. In such a situation, two distinct interests have been created for the same legal description and must be assessed as such. Another exception is a situation where a possessory interest exists. A possessory interest is usually thought of as a right to the use of a publicly owned property by a private entity. For instance, the Hertz counter at a publicly owned airport.

As part of the definition of the appraisal problem, the definition of the value sought must be determined. Pursuant to Section 137.115, RSMo, all properties are to be appraised at true value in money. In Missouri, the courts have defined true value in money as the highest price paid, in terms of dollars, which a property will bring if offered for sale for a reasonable period of time, both buyer and seller being fully aware of all the uses to which the property may be put and neither being under any compulsion. However, for general property assessment purposes those lands actively devoted to agricultural and horticultural purposes, as defined by Section 137.017 through 137.026 RSMo, shall be valued in accordance with guidelines set forth by the State Tax Commission. These procedures are discussed more fully in Chapter VII.

In the first statewide reassessment, the effective date of all appraisals was January 1, 1985. Since 1986, assessors have operated on a two-year assessment maintenance cycle, with real property assessment updates occurring each January 1st of the odd year.

## **2. Conduct a Preliminary Study and Outline the Appraisal Plan**

In preparation for the statewide reassessment, preliminary studies were conducted and a determination made as to the amount of work which had to be done, new mapping systems were developed, appraisal systems selected, data collection procedures designed and computer systems

were implemented.

Since 1985, the focus of the preliminary study and assessment maintenance plan has shifted. Where before it was an almost overwhelming task to select and implement the necessary systems, it is now a matter of identifying areas which need updating or improvement and ensuring the resources are available to complete the project.

As part of the preliminary survey, an analysis will have to be made of the total personnel requirements and the staff presently available. Personnel may need to be hired and trained, work plans and assignments made, and quality control checks instituted. Such an analysis should include the number of clerks both needed and currently available for research and clerical functions, the number of appraisers (time must be allocated for regular maintenance work, new construction, etc.), and if data processing is available, the amount of work to be done by automation will need to be determined.

With the determinations made as to amounts and types of work to be done and the completion date of the program determined, time schedules for each of the varying activities involved in the program may be developed and phase delineation charts constructed.

At this point in the preliminary survey, the assessor should have enough information available to make the very basic decision as to who will conduct the appraisal update process. That is, whether the resources available are sufficient to conduct the program in-house or whether a contract will be needed for some services.

### **3. Develop and Analyze Market Data for the Three Approaches**

The next step in the mass appraisal process is collection and analysis of market data. In an effective appraisal system, there is a need for collection and analysis of market data for cost information, comparative sales information, and for income and expense information. The data collection of cost information is to assist in the establishment of cost manuals or for the updating of an existing

manual. Cost manuals are used in estimating the replacement/reproduction cost of a building. Comparative sales data is used in almost every aspect of the mass appraisal process. It is used in estimating the value of land and estimating the value of improved real estate through the use of the market data approach. Comparative sales data may be the basis for the establishment of ratios or trends which can be used in property valuation as a benchmark for adjusting past appraisals. The comparable sales information is also useful where a computerized appraisal system is being utilized. In mass appraisal, it is during the market analysis phase that the base land rates and building costs are established. In addition, the sale data is also used to determine rates of depreciation and to set up depreciation schedules.

A system should be devised for the efficient collection of all market data that would relate to the value of any type of property. Much of this data can be systematically collected and then can be tabulated and supplied to the appraisers so that they can perform their task more efficiently, giving a quality job on a quantity production basis. Clerical personnel can be utilized to collect sales from deed records, property owners via mail, and published sale data services. Appraisal personnel should collect data through personal contact with property owners, brokers, managers, tenants, builders, and developers. General information from business and population trends and indications of increases and decreases of values for areas within the county should be noted. Trade journals will indicate trends for particular types of businesses, and zoning and building practices may help establish neighborhood patterns.

An appraisal is an opinion of value which is formed by a mental process that considers physical and economic value influences as indicated by sales, cost, and income value indicators. Therefore, since appraisal includes a large number of variables that must be considered in the valuation of each property, base standards or values must be developed through the analysis of the basic sales, cost, and income information contained in the data file. The following list illustrates some of the items which would be considered base standards.

**A. Cost Index**

Information from builders, new home sales, building supply houses, and government indexes are used to establish a cost index for use with the cost manual.

**B. Depreciation Benchmarks**

Sales, cost, and published tables are analyzed and developed into local guides for depreciation to be used on various types of improvements.

**C. Income and Expense Guides**

Information gathered from income producing properties is tabulated in order to establish economic rents and typical expenses.

**D. Capitalization Rates**

Sales are analyzed to establish the interest rate applicable to investment properties. Recapture and tax rates must also be established.

**E. Gross Rent Multipliers (GRM)**

Relationships between sale price and income are analyzed to determine GRM's to be used on various properties.

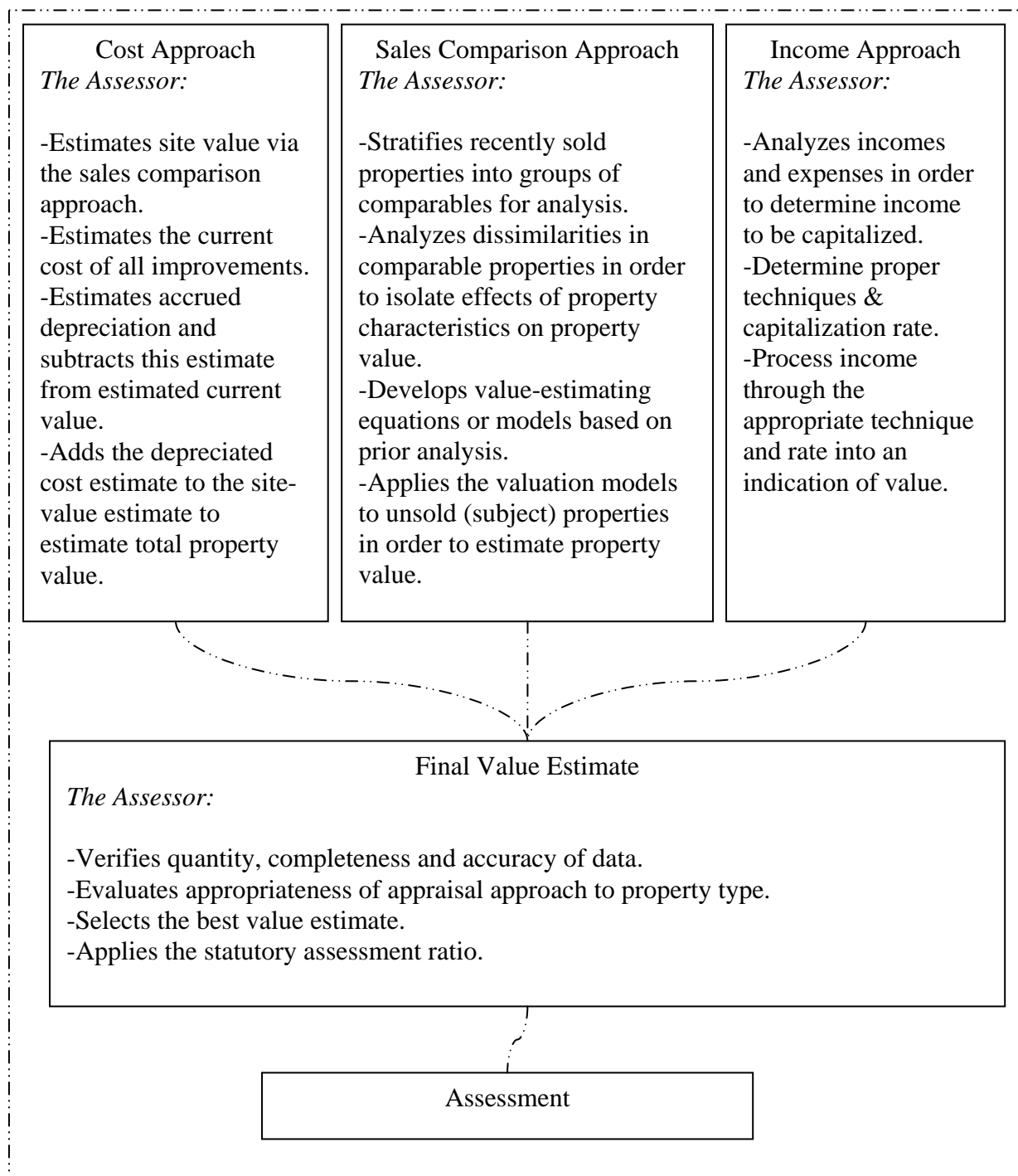
**F. Basic Unit Values**

From sale analysis and land residuals, unit values for land and various types of properties are set.

**4. Application of the Data**

The basic data applicable to each of the three approaches to value is converted into base units and adjustment factors which are used to develop the final estimate of value for each property being appraised. To be effective, the entire valuation process must incorporate in proper balance the three approaches to value. (See *Exhibit 5.3*).

EXHIBIT 5.3  
REAL PROPERTY  
APPRAISAL



**A.     Sales Comparison Approach**

The action of the market shown in prices paid for real property is a highly reliable indicator of value.

It follows that the value of property might be reliably estimated by observing and analyzing the sale prices of comparable properties. This technique, often referred to as the “Sales Comparison Approach”, is dependent upon the availability of sale data of comparable properties and the validity of the judgments made in regard to the adjustment for their similarities and dissimilarities. Due consideration must be given to all the tangible and intangible factors influencing values such as location, construction, age, condition, desirability, and usefulness. In each case, prime consideration must be given to the time and conditions of each sale.

The selling price of comparable properties set the upper and lower limits of value, or the range, within which the value of the subject property should fall. Analysis of the value factors influencing each sale enables the appraiser to narrow the range down to a value level that is most applicable to the subject property.

The significance of this approach lies in its ability to produce estimates of value which directly reflect the attitude of the market. Its widest application is in the appraisal of vacant land and residential properties when there are enough sales from which to select comparable properties. However, even in these categories, an assessor in rural Missouri is severely hampered by the complete absence of certificates of value. Without this very valuable tool, the assessor is forced to expend great amounts of time and resources to gather the information.

**B.     Income Approach**

The income approach has its widest application in the appraisal of income-producing property. Commercial property is bought and sold on its ability to generate and maintain a stream of income for its owner. The value of such property is a measure of the quantity, quality, and durability of the

future net income that can be expected to be returned to an investor.

Since the justified price paid for income-producing property is no more than the amount of investment required to produce a comparable desirable return and since the market can be analyzed in order to determine the net return actually anticipated by investors, it follows that the value of income-producing property can be derived from the income stream which it is capable of producing.

The mathematical process for converting the net income produced by property into an indication of value is called capitalization.

The capitalization process evolves out of the principles of perpetuity and termination. “Perpetuity” affirms that the net income produced by land will continue for an infinite period of time. “Termination” affirms that the net income produced by a building will stop after a certain number of years. This in effect is to say that all buildings at some time in the future will cease to have an economic value.

If the income flow produced by a building will terminate in the future, it is reasonable to suggest that the investor in buildings is entitled to the return of his investment in addition to a return on his investment. In the capitalization process, this recovery of the investment is referred to as recapture.

Several methods of capitalization are currently employed by appraisers. The capitalization methods most prominent are direct, straight capitalization with straight-line recapture, and annuity. Each of these are valid methods for capitalizing income into an indication of value, the use of one or the other depends on the characteristics of the income stream.

The value of income producing property can be derived by measuring the net income against the net return anticipated by informed investors. This can be expressed in terms of a simple equation:

$$\text{VALUE} = \text{NET INCOME} / \text{CAPITALIZATION RATE}$$



This capitalization rate should consist of percentage provisions for the return on the investment to land and buildings (interest rate) plus a return of the investment in the wasting asset (recapture). Net income refers to the residue of the potential gross income (having been adjusted by an allowance for vacancy and collection loss) remaining after all allowable operating expenses are paid. Selecting the proper capitalization rate and accurately estimating a realistic gross income along with applicable operating expenses are essential to the capitalization process.

### C. Cost Approach

If the highest and best use of a property is its present use, an evaluation can be made by estimating the value of the land as if it were vacant and adding the depreciated cost of reproducing the improvements to the estimated land value.

The cost of “reproducing the improvements” as applied here refers to the replacement cost or the current cost of reproducing the improvements having equal characteristics with the subject property, which may or may not be the cost of producing a replica property. The distinction being drawn is between Replacement Cost, which refers to replacement of a substitute improvement of equal utility, and Reproduction Cost, which refers to replacement of an exact replica of the improvement. In any event, both replacement cost and reproduction cost have their application in the Cost Approach to value, and the differences are reconciled in the application of depreciation allowance.

The replacement cost includes the total cost of construction incurred by the builder whether preliminary to, during the course of, or after completing the construction of a particular type of building. Among these direct and indirect costs are material, labor, all subcontracts, builder’s overhead and profit, architectural and engineering fees, consultation fees, survey and permit fees, legal fees, taxes, insurance, and the cost of financing.

There are various methods that may be employed to estimate replacement cost new. The methods most widely used in the appraisal field are the unit-in-place method, component-part or segregated method, and the model or comparison method. The unit-in-place method is employed by

establishing in-place prices for the various components (lumber, concrete, steel, etc.) of a building or similar improvement. This method of using basic independent units can be extended to establish larger component prices such as entire walls in place or entire heating systems for a given area. The unit-in-place and segregated cost methods are generally used when the structure under appraisal is sufficiently unique in characteristics that it will not conform to a type and quality combination as listed in the cost manual. A further extension leads to the model or comparative method in which unit prices are established for the entire structure on a square foot or cubic foot basis. Depending on the method used, the unit prices are then multiplied by the respective quantities (linear feet, cubic feet, square feet, number of units, etc.) of each as they are found in the composition of the building, the sum of which is equal to the replacement cost.

The cost approach then takes on great similarity with the comparison method in that the subject properties to be appraised are compared with models to establish a base cost. Additions to and deductions from the base cost are then made in order to account for any variations in specifications and characteristics between the property and the base model. A cost index or cost multiplier may then be applied to adjust the base cost to current cost at the effective date of appraisal.

Replacement cost new represents the upper limit of value. The difference between replacement cost new and the present value is “depreciation”. The third and final step in completing the cost approach is to estimate the amount of depreciation or the loss of value from all causes. There are two distinct kinds of depreciation: deterioration, generally referred to as physical depreciation; and obsolescence, generally categorized into functional and economic depreciation. Physical depreciation may be readily defined as being the loss in value due to wear and tear, time, and the actions of the elements. An estimate of accrued physical depreciation represents the opinion of the appraiser as to the degree that the present and future appeal of a property has been diminished by its physical deterioration. There is no steady rate of physical depreciation. Actual age alone is a poor criterion. Physical depreciation begins while a building is under construction and continues until the life of a structure is at an end. The physical life of a building is dependent upon the degree of maintenance which it receives, upon the type and quality of the materials which are used in the

construction, and upon the soundness of the methods employed by the builder.

Functional/economic depreciation may be generally defined as being the loss of value due to forces other than physical deterioration which act upon a structure in such a way as to limit its economic life. Functional depreciation refers to obsolescence resulting from conditions within the property such as an imbalance in construction features, architectural treatment, or design and arrangement which tend to lessen its desirability. Economic depreciation refers to obsolescence caused by influences outside the property such as physical, economic, social, and governmental changes which have an adverse affect upon the stability and quality of the neighborhood in general and the property in particular.

The significance of the cost approach is that it is the one approach that can be used on all types of construction. Its widest application is in the appraisal of property where the lack of adequate market and income data preclude the reasonable application of the other approaches to value.

The particular data relative to an individual parcel of property are collected and recorded on a property record card. The field appraiser completes the property record card as he measures the property, identifies the various property components affecting value, grades the structure as to the quality of construction, and places the structure's dimensions in the appropriate spaces on the card. The property record card is also used for updating or making additions or deletions to an existing property. There is no need to revisit, remeasure, and recheck every property every year. However, base values should be updated periodically and properties should be revisited at least once every two years. Once the property record card has been properly filled out and the improvement properly graded, with emphasis on the quality of construction, the property record card is returned from the field and the card, cost manual, land schedules, sale data, and income information are merged into a final value estimate. In many instances, the individual who measures the house and lists it in the field is not the same individual who actually places the ultimate valuation on the property record card. This is a perfectly legitimate procedure and in most cases the only manner by which a large number of appraisals may be accomplished within a specified time frame. Mass appraisal, by its

very nature, dictates some degree of production-line appraisal. The use of standardized schedules and manuals provides the uniformity and equality which is necessary in maintaining a fair tax system. The end result, therefore, of the valuation portion of the assessment flow chart would be an equitable value estimate.

## **5. Correlation**

Correlation of the mass appraisal program includes review by the supervising appraiser and comparisons between properties to establish that uniformity at market value has been achieved. With the final estimate of the defined values, the appraiser has achieved the immediate objective of the appraisal process. The value estimates should be the appraiser's opinion reflecting the application of his experience and judgment due to a consideration of all the assembled data.

## **6. Final Estimate of Value**

The final phase of the assessment maintenance program deals with the assignment of the final value to each parcel appraised. Under Missouri law, assessments are updated each January 1 of the odd year and are to remain unchanged the subsequent even year, unless there is new construction or improvement to the parcel.

Prior to the final compilation of the real property assessment roll in an update year, a change notice should be mailed to all taxpayers of the new assessed valuation to be placed on the property. The purpose of this notice is to allow, prior to the local board of equalization, a review of the property's valuation. The notice should contain information such as the parcel number, the assessed value by subclass for the current and past year and a brief explanation of the appeal process. See *Exhibit 5.4* for a typical taxpayer change notice.

Thus described, the assessment system is a complex operation that requires knowledge and understanding. A detailed discussion and methods of application relating to these major components

of the reappraisal process are covered in later sections of this manual. The purpose of this manual is to assist the local assessment personnel in developing and managing a mass appraisal system that is efficient, accurate and equitable.

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CHAPTER:

TECHNICAL ASSISTANCE

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REVISION DATE: 2/1/2008

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EXHIBIT 5.4  
TAXPAYER CHANGE NOTICE

Map Parcel Number: \_\_\_\_\_

School District: \_\_\_\_\_ City: \_\_\_\_\_ Road District: \_\_\_\_\_

Name: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

City, State, Zip code: \_\_\_\_\_

Situs Address of Property: \_\_\_\_\_

Property Description: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Previous Appraised Value for 2006:

Residential	Agricultural	Commercial	Total
_____	_____	_____	_____

Previous Assessed Value for 2006:

Residential	Agricultural	Commercial	Total
_____	_____	_____	_____

Appraised Value as of January 1, 2007:

Residential	Agricultural	Commercial	Total
_____	_____	_____	_____

Assessed Value as of January 1, 2007:

Residential	Agricultural	Commercial	Total
_____	_____	_____	_____

If you have questions concerning this notice please call 555-555-1234 within fifteen (15) days of receipt of the notice. If your questions cannot be answered, or if you are not satisfied with an explanation, an informal meeting will be scheduled with an appraiser. In addition, the laws of the State of Missouri provide that you may appeal any assessment to the County Board of Equalization by calling 555-555-9876 before June XX, 2007.

\* \* \* Abated Property Summary \* \* \*

As provided by law the following value has been abated in Superior County  
for tax year 2007

Chapter 99	Chapter 135	Chapter 353
999,999,999	999,999,999	999,999,999

### 5.3 ASSESSMENT MAINTENANCE PLAN

In 1986, the seventy-first general assembly passed legislation which provided for the on-going maintenance of the just completed statewide reassessment. Key provisions included:

- a two-year assessment cycle
- requirement of an assessment maintenance plan
- state funding of the assessment maintenance program

With passage of this legislation, the State Tax Commission began putting into place the framework for the on-going assessment maintenance.

#### 1. Two Year Assessment Cycle

Under section 137.115 the assessor is required to annually assess all real and personal property, however, the statute was re-worded to say that the assessor “...shall annually assess all real property in the following manner: New assessed values shall be determined as of January first of each odd-numbered year and shall be entered in the assessor’s books; those same assessed values shall apply in the following even-numbered year, except for new construction and property improvements which shall be valued as though they had been completed as of January first of the preceding odd-numbered year...” Thus the two-year assessment cycle was created.

#### 2. Assessment Maintenance Plan

In addition to the creation of the two-year assessment cycle, the legislation requires the county assessor to prepare and submit an assessment maintenance plan. The Commission created a sample maintenance plan patterned after the reassessment plan used by most counties. The assessment

maintenance plan includes the following components:

- Functions and Responsibilities
- Charts and Reports
- Personnel Estimation Chart/Employment Schedule
- Phase Delineation Chart
- Plan Budget

The objective of the assessment maintenance plan is to outline how the assessor is going to maintain both the real and personal property assessments, making the best use of the resources available. Since 1986, the time line for developing, reviewing, approving and monitoring a county assessment maintenance plan has typically been:

- September to November of the Odd-Numbered Year: the Commission, based on legislative changes, reports and staff recommendations, drafts a letter to each county assessor outlining objectives and key concerns to be addressed in the upcoming assessment maintenance cycle.
- November to December: County assessors develop their assessment maintenance plan, and submit to the State Tax Commission and County Commission by January 1, of the even-numbered year.
- December, odd-year to April, even-year: the Commission reviews and approves assessment maintenance plans.
- January, even-year through December, odd-year: County assessors and staff implement the approved assessment maintenance plan, while the Commission staff monitors activity for compliance to the approved plan.

#### **A. Functions and Responsibilities**

The primary functions and responsibilities are broken into two sections, one for real property and one for personal property, see *Exhibit 5.5*. The key functions and a brief explanation of each function are provided. The assessor completes the item by identifying the personnel who has primary responsibility for the function and adds any comments relative to the item.



For example:

Sales Clerk II

Comments:

Sale letters will be mailed daily, and responses will be processed upon receipt. PRC copies made, attached to the sale letter and input for study.

3) Sales information. Obtain, verify, and log sales information from all sale letters. Other sources include certificates of value, real estate agents, appraisers, banks, savings and loans, etc.

In the example, the assessor has indicated that the Sales Clerk II has primary responsibility for the mailing of sale questionnaires or letters. In the comment the assessor indicates how the responses will be handled. The advantage to listing the position and the comments is two-fold. One, it communicates to county staff the jobs or tasks for which they are responsible, and two, it identifies for the Commission the county's key players. By doing so, the Commission staff knows who to contact when checking on a particular function, and does not waste their time or the county's time by requesting updated information from the wrong person.

The functions and responsibilities list the primary items in an assessment maintenance program. Individual counties may add items to fit individual needs. Urban counties with a large number of staff may need to adjust the listing to reflect the specialized nature of its organization. Rural counties with minimal staff may find the same position title listed many times, due to the more generalized responsibilities.

## **B. Charts and Reports**

The section is simply a listing of the standard charts and reports, whose use has been recommended by the Commission for use in an assessment maintenance plan, see *Exhibit 5.6*. In completing this section of the plan, the assessor simply lists the date that the chart or report will be completed for the proposed plan. For example, the proposed quarterly budget should be prepared and submitted with

the plan; therefore, a date of January 1 of the even year would be listed. On the other hand, the bi-annual report on abated property is not due until November 1st of the odd-year and, therefore, its completion date would be between the close of the assessment roll (May/June) and its due date. If a chart or report is not to be utilized, the assessor lists “Not to be Used” on the blank provided for the specific item.

## EXHIBIT 5.5

### Real Property FUNCTIONS AND RESPONSIBILITIES

Job Title Comments		Responsibility
	1.	Public information and public relations - on going.
	2.	Update mylars, property record cards, work index cards, final alpha cards and/or other related forms. Complete on a quarterly or monthly basis. Ownership data will be maintained to within _____ months.
	3.	Sales information. Obtain, verify and log sales information from all sale letters. Copy corresponding PRC and file with the returned sale letter. Other sources may include certificates of value, real estate agents, appraisers, banks and savings & loans, etc. All sale information will be available for review and use by the Commission.
	4.	Building Costs. Obtain and verify current building costs. The new construction log will be utilized to identify and locate new construction samples.
	5.	Conduct sale analysis of all available sales. Studies will be conducted to determine the base rates for building costs, land values, and rates of depreciation-both physical and obsolescence.
	A)	Building Cost Index for 2009. An index study will be completed and submitted by June 30, 2008 to the Commission for their review and approval.
	B)	Depreciation studies will be completed and submitted to the Commission by June 30, 2008 for review and comment. In addition, studies will be conducted by neighborhood to identify obsolescence.
	C)	Land value studies will be conducted by neighborhood and land rates will be established which when properly applied result in a fair and reasonable land value for parcels assessed at market value. These studies will be submitted to the Commission for review and comment by June 30, 2008.

## EXHIBIT 5.5 continued, page 2 of 4

Job Title Comments		Responsibility
	6.	Complete interim untrended index study, based on additional average quality, new construction, to be completed and submitted to the Commission by October 1, 2009.
	7.	Sale Ratio Studies: Will be conducted by neighborhood or other strata. The object being to determine the relative level of assessment between the county's appraised value and the sale price of the sold property. Complete on a Quarterly basis and generate summary by neighborhood or strata, listing the number of sales, the low, high, mean, median and weighted mean ratios, C.O.D., P.R.D. and the time-frame of the sales used within the study.
	8.	Recalculate all proposed 2009 land values and improvement costs, up to replacement cost new prior to conducting field review, to be completed by ____/____/2008.
	9.	Conduct <b>final field review</b> . If you do not intend to complete all of steps A through H, please provide a narrative that describes your final review and how market values will be developed.
	A)	Inspect recently sold properties to establish bench marks. Update neighborhood sales analysis. Based on the updated neighborhood sale analysis, corrective actions will be outlined and implemented to ensure final 2009 values will reflect local market conditions.
	B)	Review, data collect, and photograph all new improvements and additions.
	C)	Review changes resulting from mapping splits or combinations.
	D)	Verify accuracy of all physical data, quality grades of improvements, subclassification of land and improvements. Property records will be updated to reflect changes or to correct errors. Take new photographs if none exists, or the improvement's condition has substantially changed.
	E)	Review land value and apply adjustments as needed.

## EXHIBIT 5.5 continued, page 3 of 4

<b>Job Title Comments</b>		<b>Responsibility</b>
	F)	Assign depreciation to improvements. Depreciation will be assigned to reflect the physical condition and obsolescence applied (whether economic or functional) as needed, to ensure the final value reflects current local market conditions. Notes will be listed on the PRC to explain any adjustments.
	G)	Adjust agricultural land grades where required, changing the agricultural maps and property record cards accordingly.
	H)	Update review date on property record card.
	10.	Complete final calculations following field review, data entry and finalize your estimate of market value.
	11.	Income. Obtain and verify income and expense information for commercial property. Review records for 2006, 2007 and 2008.
	12.	Develop appropriate capitalization rates for income producing properties and calculate their values by the income approach.
	13.	Prepare notices to taxpayers for increases in value, (by _____ annually).
	14.	Conduct informal meetings with taxpayers, (complete by _____ annually).
	15.	Prepare for and defend values at board of equalization annually.
	16.	Complete the real property assessment roll (by 5/31 annually - 6/1 for township counties - 5/1 for City of St. Louis).

## EXHIBIT 5.5 continued, page 4 of 4

**Personal Property  
FUNCTIONS AND RESPONSIBILITIES**

<b>Job Title Comments</b>		<b>Responsibility</b>
	1.	Mail State Tax Commission approved personal property assessment forms by (2/1 annually).
	2.	Process railroad and utility returns for appraisal of locally assessed property (by 4/20 annually).
	3.	Process State Tax Commission approved personal property assessment forms
	4.	Prepare second notice to taxpayers whose assessment list has not been received (by 4/1 annually). Track and log late lists, penalties and waivers.
	5.	Complete the personal property assessment and real estate rolls (by 5/31 annually - 5/1 for City of St. Louis).
<b>Additional Comments:</b>		

## EXHIBIT 5.6

## CHARTS AND REPORTS

The following charts and reports have been recommended by the State Tax Commission. We intend to prepare and incorporate into the plan the selected charts and reports by the date shown.

Date Available		
	A.	Parcel Count. All parcels, both taxable and exempt, including manufactured homes on leased land, REA's, CATV's, and other unmapped parcels where applicable.
	B.	Proposed budget through December 31, 2009.
	C.	Phase Chart through December 31, 2009.
	D.	Personnel Estimation Chart through December 31, 2009.
	E.	Employment Schedule through December 31, 2009.
	F.	Organization Chart to show overall responsibility and accountability.
	G.	Duties and responsibilities itemized for each personnel position.
	H.	A narrative description of all major phases, including standard procedures and assignments of responsibility.
	I.	A training outline for all personnel.
	J.	A detailed field manual for data collectors.
	K.	Abated property report. To be submitted by November 1, 2009.
	L.	Annual Computer Inventory. A summary of disk usage by system users, and anticipated maintenance costs expected for the year. To be submitted by March 31 each year.

**C. Forms to be Utilized**

Similar to the Charts and Reports, there is a listing of recommended forms to be used in the assessment maintenance program, see *Exhibit 5.7*. The primary difference is that the forms are used for activities that are of a day to day nature whereas the charts and reports are items that run the course of the assessment maintenance plan or cycle.

Most of the forms listed are self-explanatory; however, a few explanations may be beneficial.

- Income and Expense forms are used to gather specific information which may be used to develop typical income and expense rates for income producing property.
- Split tax statements are used to allocate a single parcel's value between multiple taxpayers, e.g. a landlord owns multiple lots, and for income tax purposes wants the taxes split between each lot and its improvements.
- Second notice for non-returned assessment lists, as required by statute, the assessor is required to notify taxpayers who fail to turn in a personal property assessment list by March 1.

Examples of each of these forms are found in *Exhibit 5.7*.



## EXHIBIT 5.7

## FORMS TO BE UTILIZED

The following forms have been recommended for equalization and maintenance purposes by the State Tax Commission. We intend to incorporate the following forms into the plan and submit them by date shown.

Date Available		
	A.	Sales questionnaire for mailing
	B.	Income and expense forms
	C.	Assessment change notice
	D.	Informal hearing forms
	E.	Board of equalization forms
	F.	Split tax statement forms
	G.	Statistical Analysis forms
	H.	Data verification forms for new construction
	I.	New construction log
	J.	Project control log to track different phases by map sheet
	K.	Map count log to track parcel counts by map sheet
	L.	Real estate and personal property assessment roll pages
	M.	Individual and business personal property lists
	N.	Second notice for non-returned assessment list

**D. Personnel Estimation Chart and Employment Schedules**

Successfully estimating personnel needs is critical to conducting the assessment maintenance program. If estimates are too low, then the scheduled work will be completed late or not at all. If estimates are too high, then excess cost will be incurred. The following is a standard formula for estimating the number of personnel needed:

$$\frac{\text{Parcels}}{\text{Quantity X Days}} = \text{Personnel Needed}$$

Where:

**Parcels** is the amount of work to be accomplished, e.g. the number of parcels to be worked

**Quantity** is the standard production level, the number of parcels one person can typically work in one day

**Days** is the number of working days in the phase

On the form Personnel Estimation Calculations, the formula is set up slightly different, however the results will be the same.

The following example demonstrates that both methods will yield the number of personnel needed for the task at hand. Say for example, that there are 13,500 improved parcels which need to be entered into the computer system. One person, on average, can data enter 65 parcels per day. How many people will it take to complete data entry over a four month (average 18 work days per month) period? The formula and calculations would be as follows:

$$\frac{13,500}{65 \times 72} = 2.88$$

or calculated using the Personnel Estimation Calculations page:

Phase	Number of Parcels	Standard Level of Production	Work Days Required	Total Work Days	Persons Needed
<b>Data Entry</b>	<b>13,500</b>	<b>65</b>	<b>207.7</b>	<b>72</b>	<b>2.88</b>

As you can see, either method calculates the same number of people needed. The trick to estimating personnel is in identifying the amount of work to be done, correctly estimating a reasonable standard level of production and allowing a reasonable amount of time to complete the assignment.

Using simple algebra, the variables may be rearranged to compute time frame needed or daily production targets. For example, the assessor has two people available for data entry, 13,500 parcels to be keyed in, and each can enter about 65 parcels per day. How many days should be allowed in the phase for data entry?

$$\frac{13,500}{65 \times 2} = 103.8 \text{ days}$$

So if the assessor is unable to obtain additional personnel, either due to costs or training considerations, then the time frame could be extended from 72 working days to 100 or 105 (that is, to allow six months rather than four).

The number of working days in the phase may be estimated by considering the following:

Maximum Working days per year:	260	(52 weeks x 5 days/week)
Vacation days per year:	10	
Sick days per year:	10	
Days lost due to weather:	5	
Holidays	12	
Days for training/meetings	<u>5</u>	
Net working days per year	218	

or  $218/12 = 18.17$  working days per month

In estimating the number of working days in your county, you want to be sure to adjust for lost time according to local conditions. For example, if your county provides three weeks vacation per year you would deduct 15 days not 10 as in the example. Typically plans will be based on 18 to 20 working days per month.

To check the availability of staff, the number of people needed for each phase can be entered into the “Personnel Estimation Calendar” and the numbers summed for each month. By listing the total people needed each month; the assessor can quickly see where the peaks and valleys in staffing will occur and determine what actions will be needed. For example, do you hire additional staff for one or two months, or do you reconsider the time frame for the tasks and spread the work over a longer period to stabilize personnel needs? Most assessors do not have the luxury of adding people for short periods of time, rather, it becomes necessary to adjust the phase time frame and/or adjust the expected production level. See *Exhibit 5.8* for the Personnel Estimation Calculations and *Exhibit 5.9* for an example of the Personnel Estimation Calendar.

## EXHIBIT 5.8

## PERSONNEL ESTIMATION CALCULATIONS

County :

2008-2009

PHASE	NUMBER OF PARCELS	STANDARD LEVEL OF PRODUCTION	WORK DAYS REQUIRED	TOTAL WORK DAYS	PERSONS NEEDED
Change Notices					
Public Traffic					
Mapping Transfers					
Mapping Splits & Inking					
Sales Letters					
Sales Data Entry					
New Appraisal System, Data Entry					
Preliminary Calculations					
Final Review					
Final Calculations					
Office Review					
Data Entry, Real Estate					
New Construction Review					
Final Calculations, New Construction					
Office Review New Construction					
Data Entry, Real Estate - New Const.					
Prepare & Mail P.P. Lists					
Process P.P. Lists					
Data entry, Personal Property					
Informal Hearings					
Board of Equalization					

Standard Level of Production

= Number of items that can be done by one worker in one day

Work Days Required

= Number of Parcels / Standard Level of Production

Total Work Days

= Number of work days available in a phase (from phase chart)

Persons Needed

= Work Days Required / Total Work Days

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### EXHIBIT 5.9

#### PERSONNEL ESTIMATION CALENDAR

County :

2008

PHASE	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Change Notices												
Public Traffic												
Mapping Transfers												
Mapping Splits & Inking												
Sales Letters												
Sales Data Entry												
New Appraisal System, Data Entry												
Preliminary Calculations												
Final Review												
Final Calculations												
Office Review												
Data Entry, Real Estate												
New Construction Review												
Final Calculations, New Construction												
Office Review, New Construction												
Data Entry, Real Estate - New Const.												
Prepare & Mail P.P. Lists												
Process P.P. Lists												
Data Entry, Personal Property												
Informal Hearings												
Board of Equalization												
<b>Total</b>												

Standard Level of Production

Work Days Required

Total Work Days

Persons Needed

= Number of items that can be done by one worker in one day

= Number of Parcels / Standard Level of Production

= Number of work days available in a phase (from phase chart)

= Work Days Required / Total Work Days

**E. Phase Delineation Chart**

The phase delineation chart is useful in laying out the key phases in the assessment maintenance plan. The chart is broken into six primary areas which include:

- Administration
- Mapping
- Market Analysis
- Real Estate
- Personal Property
- Hearings

Within each of the six primary areas are listed a number of specific phases. As with the other components of the assessment maintenance plan, a county assessor may supplement the sample chart with additional items as needed.

**(1) Administration**

- **Taxpayer Change Notice or Assessment Increase Notice.** Under 137.180 RSMO, whenever any assessor increases the valuation of any real property, the assessor is required to give notice to the owner of record of any such change. While the statute does not specify a date for the notice, the Commission recommends that notices be sent in early spring. By doing so, this allows the assessor and staff to conduct informal hearings prior to the close of the assessment rolls.
- **Assessment Rolls** are due to the county clerk by a specific date as outlined in the table below. In the phase chart, the assessor is showing the time frame for completing the assessment roll. The specific tasks of the phase will be defined by the assessor and may vary by county. Typically, the phase consists of final data entry and proofing of the assessment rolls.

## ASSESSMENT ROLLS DUE TO THE COUNTY CLERK

3rd/4th Class	Township Counties	2nd Class	1st Class	City of St. Louis
May 31 137.245	June 1 137.425	May 31 137.245	May 15 137.375	First Monday In May 137.510

- The abated Property Report is a listing of property which contains abatements granted under one of three statutory sections. The three sections include Chapter 99-Tax Increment Financing, Chapter 135-Enterprise Zones, and Chapter 353-Urban Redevelopment Projects. Under 137.237, the assessor is required to submit the listing to the State Tax Commission by November 1, of each odd year.

(2) **Mapping**

- Sale Data Collection is best described as the process of mailing sale questionnaires, processing returned sale letters and preparing the necessary data so that the appraiser may analyze the information. Typically, this is a daily activity, however, in some counties, due to limited resources; there may be periods of time that this work is put on hold, for example, during the late spring when the assessment rolls are being finalized.
- Property Transfers is the process of collecting deeds, plats, surveys and other documents from the recorder's office and processing to identify changes in real property ownership, creation of new parcels and deletion of combined parcels.
- Work Maps refers to the updating of the ownership maps on a temporary basis. Most counties



maintain a set of work maps which are used to pencil in changes to parcel boundaries. Typically, the work maps (or blue line maps or composite maps) are updated as the deeds or other documents are processed so that changes in parcel boundaries can be plotted. Work maps will become the source document for the inking of the final ownership overlay maps.

- Inking Updates are completed after the deeds and other documents are processed and the work maps updated. In counties with relatively little activity, that is the creation or deletion of parcels, inking will occur once or twice a year. In counties with a lot of activity, inking updates may be a daily activity.

### **(3) Market Analysis**

The degree to which the biennial update will succeed is dependent on the quantity and quality of the market analysis. The greatest obstacle faced in the assessor's office is the lack of sale data upon which to base the comparisons in the appraisal process. The market analysis consists of four basic studies which gauge the quality of the appraisals and help determine the base rates or levels for cost, land and depreciation. For a more detailed discussion on market studies and sample forms, see section 5.9.

- Sale Ratios/Obsolescence are studies completed on a regular basis to determine the quality of the assessor's appraisal relative to a parcel's sale price. When conducted on a regular basis, e.g. quarterly, it allows the assessor to keep up with local market activity. The results of a neighborhood sale ratio study not only illustrate the relationship between appraisals and sale prices but provide an indication as to how consistent or uniform the appraisals are relative to the sales of property. Sale ratios conducted early in the assessment cycle should indicate how much change is needed, whereas studies conducted late in the cycle show assessors how successful the update has been.
- An index Study is typically done once each year. The results provide the basis for the update to

be completed in the current cycle. The interim study is primarily used to monitor market activity, which provides an indication as to how costs are changing.

- Land Studies are conducted once each cycle. In these studies sales are analyzed to determine the base land rates, whether they are front foot rates, square foot rates or acreage rates.
- Depreciation Studies are also conducted each assessment maintenance cycle. The objective is to take directly from the market an indication as to the amount of depreciation a building has suffered.
- Income and Expense studies are useful in determining the typical market rates for income and expenses of income producing property. Where the data is available, the results can provide the best indication to value for property that is held for income producing purposes.

**(4) Real Estate**

- Preliminary Calculations refers to the time needed to apply a new cost index and calculate an updated replacement cost new (RCN) and update base land values. For counties with an automated appraisal system, this phase is generally a very short period of time. For counties who are converting to an automated system, this phase may be used to represent the initial data entry of the cost system components. For counties who update manually or are converting to an automated system, allowing sufficient time is critical to the timely implementation of the assessment maintenance plan.
- 20\_\_\_ Final Review is the phase where the assessor outlines when the parcel by parcel review for the odd-year update is to take place. The distinction between this phase and the new construction review is that in the final review a parcel by parcel review is conducted, checking closely for changes in physical characteristics, additions and deletions, and the reassignment of depreciation(or condition). In addition, any new construction and improvement is noted and

valued. It is during this phase that values are set for the upcoming odd-year update as well as the subsequent even year.

- 20\_\_\_ New Construction Review is the phase conducted during the odd year for the subsequent even numbered year. It is primarily a time to identify, list and value new improvements and construction made to a property. Improvements that have been razed should be identified and the value deducted, however, adjustments in value due to economic situations are not made.
- Office Review is a time set aside to finalize values for the upcoming odd-year update. During this phase, the assessor and staff review in the office the updated values, resolve any questions or disparities and finalize values. A key objective to the office review is to ensure that comparable properties are valued consistently and that any unusual or extreme values are reviewed and either corrected or substantiated.
- 20\_\_\_ Data Entry is the phase set aside for completing the necessary changes to the assessor's final records. Depending on the county's degree of automation, this may simply be the data entry of the final values for each parcel of real estate or it may be the time required to edit each appraisal record.

**(5) Personal Property**

- Prepare and Mail Lists refers to the time needed to print, address and mail the county's personal property lists. Typically mailing is completed by early January of each year.
- Process is the time needed to receive and value property listed on the returned personal property assessment lists. In addition, an allowance for preparation of the second notices should be incorporated into the phase.

- 20\_\_\_ Data Entry is the time for completing the data entry of the final information for the personal property assessment roll. This may include simply keying in the property owner's name, address and values or it may involve entry of individual property for automated valuation. In either case, time should be allowed to complete the data entry prior to the close of the assessment roll and preferably early enough to allow proofing of the final data.

**(6) Hearings**

- Informal hearings are set for taxpayers to meet with the assessor and staff prior to the closing of the assessment roll. During these meetings the assessor should attempt to correct any errors found and validate the final values.
- The BOE (Board of Equalization), under 138.010, RSMO, is required to meet the second Monday of July except in a year of general reassessment, when the board may meet anytime after May 31. In first and second class counties (138.090), the BOE meets on the first Monday in June, except in a year of general reassessment, when the board may meet anytime after May 31. In the City of St. Louis, the BOE shall meet on the third Monday in May.

## TECHNICAL ASSISTANCE

## EXHIBIT 5.11

## PHASE CHART

Year : 20

County :

Administration	January	February	March	April	May	June	July	August	September	October	November	December
Plan & Budget												
Change Notices												
Assessment Rolls												
Abated Property												
Computer Inventory												
Public Traffic												
<b>Mapping</b>												
Straight Transfers												
Splits & Deletes												
Work Maps												
Linking Updates												
<b>Statistics</b>												
Sales Letters												
Sales Data Entry												
Sales Ratios												
Index												
Land Analysis												
Depreciation												
<b>Real Estate</b>												
New System, D.E.												
Prelim. Calculation												
Final Review												
New Construction												
Final Calculation												
Office Review												
Data Entry												
<b>Personal Property</b>												
Prepare & Mail												
Second Notices												
Process Lists												
Data Entry												
<b>Hearings</b>												
Informal Hearings												
B.O.E. Hearings												
S.T.C. Hearings												

## EXHIBIT 5.11 continued, page 2 of 3

## PHASE CHART

Year : 2008

County :

	January	February	March	April	May	June	July	August	September	October	November	December
<b>Administration</b>												
Plan & Budget												
Change Notices												
Assessment Rolls												
Abated Property												
Computer Inventory												
Public Traffic												
<b>Mapping</b>												
Straight Transfers												
Splits & Deletes												
Work Maps												
Linking Updates												
<b>Statistics</b>												
Sales Letters												
Sales Data Entry												
Sales Ratios												
Index												
Land Analysis												
Depreciation												
<b>Real Estate</b>												
New System, D.E.												
Prelim. Calculation												
Final Review												
New Construction												
Final Calculation												
Office Review												
Data Entry												
<b>Personal Property</b>												
Prepare & Mail												
Second Notices												
Process Lists												
Data Entry												
<b>Hearings</b>												
Informal Hearings												
B.O.E. Hearings												
S.T.C. Hearings												

CHAPTER:

# TECHNICAL ASSISTANCE

REVISION DATE: 2/1/2008

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## EXHIBIT 5.11 continued, page 3 of 3

### PHASE CHART

Year : 2009

County :

Administration	January	February	March	April	May	June	July	August	September	October	November	December
Plan & Budget												
Change Notices												
Assessment Rolls												
Abated Property												
Computer Inventory												
Public Traffic												
<b>Mapping</b>												
Straight Transfers												
Splits & Deletes												
Work Maps												
Linking Updates												
<b>Statistics</b>												
Sales Letters												
Sales Data Entry												
Sales Ratios												
Index												
Land Analysis												
Depreciation												
<b>Real Estate</b>												
New System D.E.												
Prelim. Calculation												
Final Review												
New Construction												
Final Calculation												
Office Review												
Data Entry												
<b>Personal Property</b>												
Prepare & Mail												
Second Notices												
Process Lists												
Data Entry												
<b>Hearings</b>												
Informal Hearings												
B.O.E. Hearings												
S.T.C. Hearings												

**F. Plan Budget**

In order to implement any plan, provisions must be made for funding. The assessment maintenance plan is partially funded under 137.750, RSMO, which provides state funding for up to 50% of costs contained in an approved assessment plan. The funding covers all costs incurred in the implementation of the approved assessment plan with a few exceptions. Those exceptions include:

- Premiums for property and casualty insurance and liability insurance
- Depreciation, interest, building and ground maintenance, fuel and utility costs, and other indirect expenses which can be classified as the overhead expenses of the assessor's office;
- Purchase of motor vehicles.

Other costs and expenses may qualify for reimbursement, but require specific approval in addition to being contained within an assessment maintenance plan and include:

- Salaries and benefits of data processing and legal personnel not directly employed by the assessor;
- Costs and expenses of computer software, hardware and maintenance;
- Costs and expenses of any additional office space made necessary in order to carry out the county's maintenance plan;
- Costs of leased equipment;
- Costs of aerial photography.



Other funding comes from a percentage withheld from all taxes collected, and the county's general revenue. The percentage withheld from tax collections formally was 1% for third and fourth class counties, and one-half of 1% for first and second class counties, and cities not within a county. In 2005, legislation was enacted that provided for additional withholdings from tax collections. In third and fourth class counties, an additional one-quarter of 1%, up to a maximum of \$50,000 is withheld. In first and second class counties, and cities not within a county, an additional one-eighth of 1%, up to a maximum of \$100,000 is withheld. This additional withholding is due to expire on 12/31/2009.

The state funding is limited to appropriations, and is dispersed on the state's fiscal year basis. At present the limit is \$6.00 per parcel, with minimal funding guaranteed at \$3.00 per parcel.

The plan budget consists of two parts, a summary by year and a quarterly plan budget. See *Exhibit 5.12* for the budget summary and *Exhibit 5.13* for a quarterly plan budget. In addition to showing all expected costs the plan budget includes a revenue section for calculating the cash flow. Because the revenue sources are calculated based on a cash flow analysis, the totals for the revenue sources may not equal their respective percentage shares on a calendar year basis. To calculate the cash flow, the following information must be known:

➤ the total budget cost	\$1,285,905.00
➤ the number of parcels	68,444
➤ the cost per parcel	\$18.78
➤ the estimated percentage withholding money	\$500,000.00
➤ the estimated other or miscellaneous funds	\$3,000.00
➤ the state reimbursement amount available for the remainder of the fiscal year	\$110,003.74
➤ the budgeted quarterly total cost	\$1,285,905.00

The cash flow is calculated as follows:

1st	2nd	3rd	4th	Total
-----	-----	-----	-----	-------

Total All Costs	444,720.25	247,314.25	354,006.25	239,864.25	1,285,905.00
General Revenue	0.00	79,030.76	230,349.12	62,861.12	372,241.00
% Withholding	331,716.51	168,283.49	0.00	0.00	500,000.00
State Reimb.	110,003.74	0.00	123,657.13	177,003.13	410,664.00
Other	<u>3,000.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>3,000.00</u>
Total All Revenue	444,720.25	247,314.25	354,006.25	239,864.25	1,285,905.00

In the 1st calendar quarter, the state reimbursement is taken directly from the previous 4th quarter reimbursement request, if funds remain, up to 50% of the expenditures. The balance of funds needed is taken from the other funds, and then the percentage withholding funds. If additional funds are needed, then they would come from the county general revenue.

In the 2nd calendar quarter, the state reimbursement is again taken from the previous reimbursement request, if funds are available. In this case, the county has already received the maximum amount of state reimbursement funds, therefore \$0.00 is available. The withholding funds will also be expended, so General Revenue funds must provide the revenue to cover the approved expenditures.

In the 3rd calendar quarter, the state funds are calculated at 50% of the 2nd quarter costs, as this is the first fiscal quarter and the county is eligible for reimbursement of up to 50% of the expenditures. Again, as the withholding funds have been expended, General Revenue provides the remainder of funding needed to cover the expenditures.

In the 4th calendar quarter, the state funds are estimated at 50% of the 3rd quarter costs; however, a check must be made to ensure that state funding will be 50%. To check the availability of state funds, take the county parcel count times the maximum per parcel reimbursement (presently \$6.00) and subtract state reimbursement received during the previous quarter. If the balance is greater than zero, then the balance, up to 50% of the 3rd calendar quarter's cost, may be used.

➤  $\$68,444 \times 6.00 = \$410,664.00$

➤  $\$410,664.00 - \$123,657.13 = \$287,006.87$

➤  $\$354,006.25 \times 0.50 = \$177,003.13$

In this example, 50% of the 3rd quarter costs is less than the balance of the maximum state funds, so 50% of the 3rd quarter costs is used. The balance of the 4th quarter's cost will come from general revenue because there are no funds available from either the percentage withholding or other funds.

## EXHIBIT 5.12

## BUDGET SUMMARY

	Approved 2007	Requested 2008	Tentative 2009
<b>Expenditure Summary</b>			
Salaries			
Office Supplies and Expenses			
Training and Mileage			
Other Costs			
Equipment and Computer			
<b>TOTAL</b>			
<b>Sources of Revenue</b>			
County General Revenue			
Tax Collection Withholding			
State Reimbursement			
Other			
<b>TOTAL</b>			
<b>Expenditures by Quarter</b>			
1st Quarter			
2nd Quarter			
3rd Quarter			
4th Quarter			
<b>TOTAL</b>			
Current Parcel Count			
Cost per Parcel			

As required by Chapter 137.750 RSMo, 1994 as amended, certain costs ( computers, aerial photography, etc.) require Commission approval before such purchases are made in order to receive state reimbursement. Although allocated building and/or maintenance costs for county-owned property or other non-reimbursable costs may be contained within your plan they will not qualify for state reimbursement. The Commission will process quarterly reimbursement requests promptly when in compliance with the approved plan.

## EXHIBIT 5.13

## Estimated Quarterly Budget

County _____		Year _____								
Salaries	No.	Total Expenditures	No.	Jan-Feb-Mar Expenditures	No.	Apr-May-Jun Expenditures	No.	Jul-Aug-Sep Expenditures	No.	Oct-Nov-Dec Expenditures
Assessor										
Deputy										
Chief Appraiser										
Review Appraiser										
Field Personnel										
Real Estate Clerks										
Personal Property Clerks										
Mapping Staff										
Benefits (Soc. Sec.)										
Health, Unemployment										
Work. Comp., Etc.										
Salary Subtotal										
<b>Office Supplies and Expenses</b>										
Appraisal Guides										
Assessment List										
Computer Supplies										
Film/Film Processing										
Mapping Supplies										
Office Supplies										
Photocopying supplies										
Printing Cost										
Stationery										
Other										
Postage										
Telephone										
Office Supply Subtotal										
<b>Training and Mileage</b>										
School/Meetings:										
Assessor										
Staff										
Mileage:										
Assessor										
Staff										
Training and Mileage Subtotal										

## EXHIBIT 5.13 continued, page 2 of 2

## Estimated Quarterly Budget

County _____		Year _____			
Total Expenditures		Jan-Feb-Mar	Apr-May-Jun	Jul-Aug-Sep	Oct-Nov-Dec
<b>Other Costs</b>					
Contracts:					
Appraisal					
Map Maintenance					
Aerial Photography					
Other Expenses					
<b>Other Costs Subtotal</b>					
<b>Equipment and Computer</b>					
Equipment:					
Purchases					
Maintenance					
Computer Expenses					
Hardware Purchases					
Software Purchases					
Maintenance - Hardware					
Maintenance - Software					
<b>Equipment and Computer Subtotal</b>					
<b>Total Cost Summary</b>	<b>Total</b>	<b>Jan-Feb-Mar</b>	<b>Apr-May-Jun</b>	<b>Jul-Aug-Sep</b>	<b>Oct-Nov-Dec</b>
Salary					
Office Supplies					
Training and Milenge					
Other Costs					
Equipment and Computer					
<b>Total all Costs</b>					
<b>Sources of Revenue</b>					
<b>Cash Flow Analysis</b>					
County General Revenue					
Tax Collection Withholding					
State Reimbursement					
Other					
<b>Total all Revenue</b>					
Current Parcel Count					
Cost per Parcel					

**G. Assessment Maintenance Plan - Sign off**

*Exhibit 5.14* is a sample sign-off page. This document is used by the assessor and county commission to affirm that the assessment fund has been established and to summarize the financial commitments to the assessment plan.

**EXHIBIT 5.14**

**2008-2009 Assessment Maintenance Plan  
Agreement and Approval**

The parties to this plan, the County Assessor, the County Commission, and the State Tax Commission, agree to its specific terms as well as these general obligations:

The Assessor will assess all taxable property in the county uniformly and at the statutorily required percentage of market value for the respective property. The actions of the assessor and staff will comply with the requirements found in Article X, Section 3 of the state constitution, Chapters 53, 137, 138 and any other pertinent chapter of the Revised Statutes of Missouri.

The County will provide office facilities and the budgetary support, as set out in this agreement, to allow the Assessor and staff to carry out the terms of this agreement and the duties of the Assessor's Office.

The State Tax Commission will provide technical assistance, including regular visits by the field representative, educational training, guidelines and other resources to aid the assessor in the execution of this plan. Further, in consideration for the Assessor supplying assessment services in compliance with the terms and obligations of this plan, the state will provide cost-share reimbursement funds to the extent specified in § 137.750, RSMo.

It is hereby affirmed by the County, that an Assessment Fund has been established, and that the general revenue funds required of this plan will be deposited into the Assessment Fund.

The undersigned approve this plan, submitted this \_\_\_\_\_ day of \_\_\_\_\_, 200\_\_.

\_\_\_\_\_ County, Missouri                      State Tax Commission of Missouri

_____ County Assessor	_____ Dated	_____ STC Chairman	_____ Dated
_____ Presiding Commissioner	_____ Dated	_____ STC Commissioner	_____ Dated
_____ Associate Commissioner	_____ Dated	_____ STC Commissioner	_____ Dated
_____ Associate Commissioner	_____ Dated		

## **5.4 PUBLIC RELATIONS**

In any major program of modernization and revaluation, the assessor should advise the public of the program, its objectives, its need and importance and their part in it. The public perceptions of the assessment function affect public acceptance of the property tax and of a reappraisal program. In addition, the effective and efficient functioning of a reappraisal program is dependent upon the cooperation of the owners and the occupants of property. It is important that the taxpayer have an understanding of the property tax system and the assessment practices involved. Therefore, an effective public relations program should be an intricate part of the assessment system and also the responsibility of every member of the assessment staff.

The property tax, like other taxes, exists so that the public may pay for the services rendered to them by government. Each taxpayer should pay a fair share, and only a fair share, of the cost of supporting the local government and its institutions. Therefore, if all properties are valued using the same standards and approaches, then each property owner will pay their fair share of the cost of local government.

Revaluation systems are designed to permit more accurate and frequent reappraisals, which ensure that tax liabilities are apportioned fairly.

The greater the elapsed time between reappraisals the more dramatic the effects of the reappraisal program are apt to be. These effects are an unavoidable consequence of correcting the errors or updating caused by infrequent reappraisals in the past. The issues of higher taxes can be addressed by focusing responsibility on those who set tax levies. Higher assessments do not cause higher taxes. The public should be made aware that the purpose of a reappraisal program is to distribute fairly the burden of taxation.

Assessors should adopt a well planned, step-by-step program of year-round communications,



employing all communication vehicles--news media, public appearances, personal contacts, correspondence, forms and informational brochures. Each medium is important and each has its place in an effective public relations program.

## **1. News Media**

The news media (newspapers, television, and radio) is an effective means for the assessor to reach a wide range of audiences several times a day. The press is usually vitally concerned with local government and its activities. Therefore, with rare exceptions, reporters are assigned to cover the public offices to pick up the news or developments which would be of interest to the public.

It is important that the assessor's office have good contact and working relations with the local press. One approach is to develop a working acquaintanceship with news people responsible for reporting local government news. As a start, the assessor should advise them of policies, the maintenance program, and of their willingness to cooperate fully at any time in answering questions and giving information to the press. Another step is to prepare news releases in which major points are clearly set forth. Technical terms should be defined in layman's language. It is important that the assessor be prepared for interviews. Rarely will a news release be sufficient; reporters may wish to clarify some point, elaborate on others, or ask entirely new questions. Therefore, it is important that the assessor be able to answer reporter's questions clearly, particularly if the interview is for television or radio.

In addition to pure news, it is sometimes possible to interest journalists in feature stories in which assessment subjects can be discussed in depth. Producers of public affairs programs are generally looking for show topics and one on the assessment process could be very positive. A number of assessing officers have appeared on panel discussions and phone-in programs during which specific questions were answered.

## **2. Public Appearances**

Presentations before service clubs, neighborhood associations, and civic organizations are other effective ways to educate the public. Public appearances before local civic organizations may be particularly successful because attendees are generally the movers and shakers of the community and are in tune with its needs. Assessors may wish to contact such organizations and offer their services as a speaker rather than waiting for an invitation.

For this medium, the assessor's office should have several prepared talks, often with charts and slides. The assessor may wish to bring a supply of informational brochures prepared by the office for distribution to those present at the meeting. The assessor should encourage the use of these presentations to the maximum extent and whenever possible may wish to use other members of his staff.

Some counties have found that, in addition to a prepared lecture, the development of a slide and tape presentation can be very effective. The pictures are excellent for telling the story and for gaining attention; while a tape with a good voice is an appropriate medium to accompany the pictures. It has been found that a point can often be made clearer or more dramatic through the use of graphics.

### **3. Personal Contacts**

Personnel in the assessor's office should be thoroughly familiar with the assessment maintenance program and the ad valorem tax system. Each contact between a member of the public and the assessor or staff is an opportunity to provide information and create a favorable impression. In discussing assessment matters, the staff should be courteous and businesslike at all times and remember that the taxpayer is probably unfamiliar with most assessment terminology.

Typically the public's first contact with the assessor's office is at the counter or by phone. There should be a smile, brevity, and friendliness in all office and telephone contacts.

At the counter, waiting time should be kept to a minimum and it is of the utmost importance that people be taken care of in the appropriate order. Counter contact should be businesslike, with visiting and excess discussion minimized, consistent with the courteous hearing of the taxpayer's story.

There is a growing use of the telephone in business and governmental activities, and more and more care needs to be taken in its use. During the telephone contact, the employee should have the data available, and should expedite the conversation. There are booklets available from the telephone companies which are very helpful in training the staff in the appropriate use of the telephone.

In all forms of personal contact, an appropriate general strategy is as follows:

- A.** Obtain the name of the person(s) with whom one is conversing and the identification of the property in question.
- B.** Allow the person to describe the problem.
- C.** Obtain and record the necessary information. If this information is not immediately available, take steps to obtain it. For example, furnishing forms or planning a visual inspection.
- D.** Express pleasure at having the opportunity to discuss assessment matters with the person and thank him for his assistance.
- E.** Assure the person that the matter will be attended to immediately and that if any errors exist, they will be corrected. If the person is plainly wrong or argumentative, it is better to try to end the conversation politely than to become argumentative.
- F.** When a problem has been corrected, personally notify the taxpayer of the steps taken and the final solution.
- G.** Advise the person of appeal rights and procedures.
- H.** If available, offer to provide the person with any brochures that may help the taxpayer to understand the answers to his questions.

The second type of personal contact is that of field contacts by the assessor or by other representatives of the office. A substantial amount of time is spent gathering appraisal data in the field, interviewing property owners, obtaining information and inspecting a particular property. This contact may be the most important one and probably the primary contact of the majority of the citizens with the assessor's office. Here all the rules of courtesy and sympathetic understanding should be observed. The appraiser should be carefully trained to communicate the reason for the field review, the objective of the maintenance cycle and its impact on taxes.

In order to reduce doubts about the identity of staff members and the purpose of their calls on property owners and generally make members of the public feel more comfortable in their contacts with the representatives of the assessor's office, the assessor should provide staff members with such items as identification badges or cards, business cards, and desk name plates. It is a sound policy to file with the county sheriff's department or police department a list of names, vehicle types, and license numbers for all field personnel. Appearances also are important. Attention should be paid to such things as the dress and grooming of the staff, housekeeping, and conduct of the staff when in public view.

Guidelines for personal conduct should be contained in procedural manuals or employee's handbooks and incorporated into the training program.

#### **4. Correspondence**

Correspondence can also be used to create a favorable impression. Inquiry letters should be answered promptly, either by letter, by telephone or by personal visit. The letter should be outlined so that it is well-organized, easily understood, and is as short as possible. Also, letters should be courteous but official, in each case stating the purpose of the letter and the authority for it.

There are many textbooks and publications which explain the fundamentals of good correspondence.

They should be available to and be used by the staff.

## **5. Informational Brochures**

An important form of public communication is through the use of brochures explaining the assessment process, state laws, time frame and dates, and the assessor's policies and program. They may also set out the taxpayer's responsibility insofar as the assessment of property is concerned. These brochures may be made up to correspond to the different facets of property assessment, such as; real property, personal property, mobile homes, business property, etc.

This medium can be distributed at the time the taxpayer has a question at the counter or through correspondence. Brochures are also timely in that they can be distributed whenever a talk is being given to service or other organizations.

The brochure should not be too elaborate, but sketches and some charts are frequently helpful. A folio size of about eight pages has been the most commonly used and has proven to be the most successful because it can be put in a pocket or a purse. They should cover the highlights and answer most frequently asked questions as briefly as possible. Many counties have found them very successful and a most important medium of public information, public education, and public relations.

The adoption of the two year assessment maintenance cycle requires continual efforts in the area of public relations. Therefore, a public information and relations program should play a very important role in the successful completion of the reappraisal system.

## **5.5 USE OF ELECTRONIC DATA PROCESSING (EDP)**

With increasing population, rapid technological advances, inflation and other related changes, the assessor's task of maintaining fair assessments has become more difficult and complicated. Electronic data processing systems are a tool of modern technology that facilitates the assessor's ability to maintain and retrieve the vast amounts of data necessary for the operation of an effective assessment system.

The nature of the system and the essentials of its installation and use must be fully understood if the purchase of such a costly item is to be justified. There are many types of systems and it is essential that the proper type and size be obtained after consideration for the present and future needs of the office.

The primary purpose for EDP is to provide for high speed, accurate, and efficient performance of the following functions: (1) record storage and file maintenance (2) classifying, sorting, and correlating data, (3) computing, and (4) report and document preparation. With this in mind, it must be remembered that computer systems have limitations. They do not think, nor do they perform any process for which they are not programmed. If erroneous information is put into the machine, erroneous information will come out. Another limitation is that the systems require knowledgeable operators who are well-informed, not only as to the operation of the system, but also as to the tasks that the assessor is required to perform.

Management should be able to use the system to its fullest capabilities and not be limited to a few operations because of a lack of knowledge. Even though a system is complex, it is merely a tool to

perform a task that management desires to have performed. The use of computers is only justified if the results and services obtained are greater than those which could be realized by comparable expenditures for alternative methods.

1. **Computer Applications** Because EDP systems have the capability of storing, updating, and retrieving vast amounts of data, the assessor can utilize the computer in a number of assessment-related applications.

A. **Record Management**

The elements of an effective assessment system require that the assessor store, maintain and be able to retrieve a large amount of information. The bulk of the information required by the assessor is found in ownership files, sales files, and property characteristics files. The information in these files must be gathered, sorted, stored, and updated by the assessor.

A computer system can be a tremendous help in the mass appraisal of property by maintaining a record of this data, by providing that the record be constantly updated, by providing rapid and efficient means of making computations from the data, and by producing hi-speed and efficient printouts summarizing the data in a convenient manner for the assessor. The computer system must be designed so that it is adaptable to the data processing operation. Under a well designed system, all of the information relating to ownership, sales, building and improvement characteristics, use, zoning, replacement cost data, depreciation, and other data can be stored on disk. The information then can be updated online each day thereby allowing the assessor to maintain a current database.

B. **Valuation Applications**

The objective of computerization is to feed complete and accurate data into a system in a form which can be manipulated and easily retrieved in the desired format. The information to be retrieved will

include specific information about the property along with the calculated values. After the office has been computerized and has established a master property file, an accurate property characteristics file, and the appropriate data relating to construction costs, sale prices, and income/expense data, then the assessor will be in a position to apply the appropriate analytical techniques to appraise the properties within the county.

- (1) **Cost Approach** Software is available which allows for the data entry of land and improvement characteristics, looking up base rates, calculating land values and replacement cost new, applying depreciation (or condition) and finalizing values. Cost approach programs are a tremendous asset when a mass update is required. In a mass update, new values can be calculated for tens of thousands of parcels in a matter of hours.

In addition to re-calculating values, the software has the ability to print property record cards or review sheets, which greatly facilitates the parcel by parcel review. *Exhibit 5.15* is an example of a printout showing the estimated property value by the cost approach.

The computation of current replacement cost new less depreciation, or RCNLD is a most important and essential operation if the assessor is to timely perform the task of maintaining current and fair assessed values. The use of computers affords the assessor the opportunity of updating the RCNLD of all structures within the county at one time, thereby allowing the assessor and staff time to concentrate on the valuation aspects, rather than being bogged down with the clerical concerns of manual calculations.



## PROPERTY RECORD CARD (PRC)

[illegible]

### Extra Features:

**Fireplaces:**

CHAPTER:

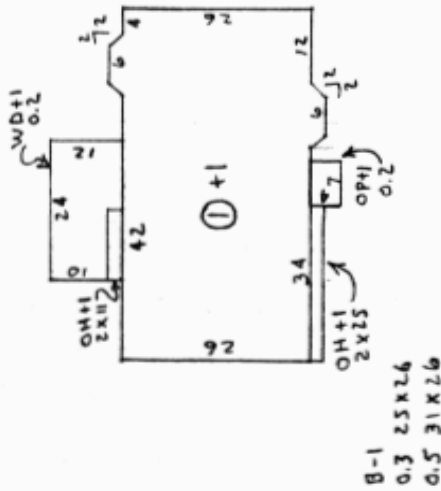
TECHNICAL ASSISTANCE

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PROPERTY RECORD CARD (PRC)

048-10-05-16-2-08-035.00  
Missouri Uniform Parcel Number



Property Name: \_\_\_\_\_

Property Address: 2421 Lakewood Drive

**(2)     Market Approach**

Systems have been developed using multiple regression analysis (MRA) and several have also developed more conventional computerized sales comparison models. These systems have proven to be effective in estimating market values for single family residential properties when sufficient numbers of sales are available. MRA may also be used in the appraisal of multi-family residential properties and urban land.

**(3)     Income Approach**

A number of income approach applications have been computerized. Several of the other techniques used to value income-producing properties are suitable for computerization. For income-producing properties, several income valuation programs are needed if a complete and adequate job of analysis is to be realized.

**(4)     Statistical Programs**

There are also a number of programs which allow the assessor to automate the analysis of market data. These programs can generate sale ratio studies, land value studies, depreciation studies and cost index studies. The use of computer generated statistics allows the assessor to measure the quality and consistency of current values, estimate base values for future use and to test the impact of given value changes. A good program will allow the assessor to ask “What if?” and see the impact almost immediately.

**C.     Administrative Applications**

Computers can be used in countless administrative applications, including the printing of property

records, new-work lists, value-change, audit reports, edit reports with error and warning messages, profile analysis (including histogram and statistical reports), assessment notices, assessment rolls, cross-reference indexes, mailing labels and letters for special mailing, valuation and property-use reports, and the like.

The task of computerizing data into a format that will allow the assessor to obtain accurate and useful results is a formidable undertaking which requires a serious commitment and effort. Considerable amounts of time and effort must be devoted to the task of learning about computers and their capabilities, investigating the cost of purchasing computer hardware (equipment) and software (programs) necessary to complete the task required by the assessor and determining the personnel requirements necessary for the completion of these tasks. The decision to automate and to utilize the capabilities of computer systems in property appraisal is a major one. Therefore, the decision to implement a computerized mass appraisal system must be based upon a thorough investigation into the advantages and disadvantages and the cost-effectiveness of incorporating the use of a computer system into the present assessment operation.

## **2. Computer Program Minimums**

In the fall of 1994, the State Tax Commission adopted a set of computer program minimums. In establishing the computer program minimums, the objective was to ensure a minimum level of program capability and to ease the transition from one vendor's program to another, should that be necessary.

The programming minimums are organized into four divisions:

1.0 General Requirements

2.0 Personal Property

3.0 Real Property

4.0 Appraisal Programs

Within each division, there are one or more categories. The minimum requirements will be implemented at the category level. That is, if a current program does not meet the program minimums for its category, then before any further upgrade/purchase will be eligible for reimbursement, that program will have to be upgraded to meet its minimums. However, it will not require programming in other categories to be added. The following pages list the program minimums.

## **1.0 General Requirements**

### **1.1 File Layouts and Storage Requirements**

File layouts, listing field name, field type, and size will be required for all systems. File layouts will be required for the primary database(s).

Disk storage space needed for data files, application files and for operation of the programs need to be identified. In addition, space requirements for multiple years will need to be identified.

### **1.2 Hardware Requirements**

Reimbursement on hardware costs will be based on the assessor's share. In order to calculate the assessor's share, each county will be required to submit an annual computer inventory form. The assessor's share will be 100% for hardware needed and used exclusively by the assessor. Costs for system components will be allocated. The allocation or assessor's share is calculated in the following manner:

#### **1.2.1 Disk Utilization**

For example, on a 600 Mb system where the assessor's files require 150 megabytes (Mb), the operating system utilizes 15 Mb, there are 200 Mb of free or unused space and three offices use the

system (assessor, clerk, and collector) the calculation would be:

$150 \text{ Mb} / 385 \text{ Mb} = 0.39$	Used Space Share
$15 \text{ Mb} / 3 = 5 \text{ Mb}$	Oper. System Share
$200 \text{ Mb} \times 0.39 = 78 \text{ Mb}$	Free Space Share
$(150 \text{ Mb} + 5 \text{ Mb} + 78 \text{ Mb}) = 233 \text{ Mb}$	Assessor's Mb Share
$233 \text{ Mb} / 600 \text{ Mb} = 0.388 \text{ or } 39\%$	Assessor's Share

1.2.2 Other methods may be considered. For consideration of alternate allocation methods, contact the STC.

### 1.3 Annual Computer Inventory

The annual computer inventory provides for the listing, by office, of disk usage, the number of terminals, screens or workstations and the number of printers on the system.

Each county seeking reimbursement for computer related expenses shall submit an updated annual computer inventory form each year, prior to March 31.

## 2.0 **Personal Property**

### 2.1 Assessment Roll

#### 2.1.1 Required information:

Name

Address

Account number

Tax district(s)

Property quantity

Property description

Property value

Assessed value by subclass

Total assessed value

Property counts (number of units) for:

Cattle: cows/bulls, yearlings, calves

Hogs: sows/boars, barrows/gilts, pigs

Sheep: slaughter lambs, feeder lambs, replacement ewes

Horses, Mares, Geldings, Asses, Jennets and Mules

Poultry/All other livestock

Farm Machinery

Vehicles: (make, model and year); Auto, truck, motorcycle, bus, RV, Boat, Air, other vehicles, historic motor vehicles, historic aircraft, aircraft-kit

Note: If other categories are used for cattle, hogs or sheep, counts for each category shall be available and reported on the livestock breakdown.

## 2.1.2 Report Requirements

### Assessment Roll

Ability to select print order by: name, account number, or tax districts, with subtotal values by subclass per page.

### Livestock Breakdown

List each category for cattle, hogs and sheep and their respective count, cost (assessment) per head and the total assessed valuation. Provide a subtotal for cattle, hogs and sheep.

2.1.3 Add, Edit, View Ownership-Property-Values

Ability to enter property into appropriate subclass and tabulate quantity by subclass, and for Form 11/11A.

2.2 Assessment Lists

Print Name, Address, and Taxing District on list

Ability to select print order: by name, tax district, account number, or zip code

Ability to track date received, and generate a second notice for non-returned lists

Ability to flag for penalty and track waiver code

2.3 Property Valuation/Calculation

Ability by user to set up and maintain value tables which allow for look-up and valuation of property

2.4 List and Value past year's property

Ability to list previous year's property and apply current year value

**3.0 Real Property**

3.1 Assessment Roll

3.1.1 Required information

Name

Address

Acres

Parcel number

Property

Description, Section-Township-Range

Subdivision-Lot-Block



Assessed value by subclass and total assessed value

District information

### 3.1.2 Report Requirements

#### Assessment Roll

Ability to select print order by: parcel number, name, account number, or tax districts. Each page to include value subtotals by subclass. On split tax parcels, print only the parent or eligible parcel.

#### Exempt Property Parcel Report

List the parcel number, ownership, use, status (vac/imp).

Select the order by parcel number or ownership.

#### Abated Property Report

Print subclass, parcel number, true value in money, % abated, total appraised value abated, ending tax year and statutory authority for abatement. List each parcel and include a summary by authority, number of parcels and total abated value.

Note: This requirement is waived for counties with a system in place or have no abated property to report.

#### Split Tax Statements Parcel Report

Ability to list the parcel number, ownership, value by subclass, assessment by district for parent parcel (total) and for sub-parcels.

#### Parcel Count by Map Sheet

List each map number and the number of reimbursable parcels and non-reimbursable parcels

on that map sheet.

### Control Samples

This is a three step process, consisting of a list of all parcels, random parcel reports, and lists of selected parcels.

### **List of Parcels**

For each parcel show:

Parcel number (left justify in positions 1-24)

Value of agricultural property (right justify in positions 25-31)

Value of commercial property (right justify in positions 32-38)

Value of residential property (right justify in positions 39-45)

Delimit each record with a carriage return and a line feed (positions 46-47).

Write the report to a PC diskette or CD, or transmit to the STC via a standard electronic protocol. Files to diskette may be compressed if the decompression program is included on the diskette(s) with the data file. Name the file with the first 4 letters of the county name (except Maries - MARS, and Marion - MARN) followed by a two digit year.

### **Random Parcel Reports**

The State Tax Commission will produce three reports, one each for agricultural, commercial, and residential parcels. At each county's request, these may be printed, placed on diskette, or transmitted via modem (parcel number left justified in positions 1-24 followed by a carriage return and a line feed in positions 25-26).

### **List of Selected Parcels**

For each selected parcel, show parcel number, assessed value, mixed use assessments, owner's name, situs address, total acres, property description (either [section, township &

range], or [subdivision, lot & block]).

Input the selected parcels from the random parcel report, either from a computer file or as key-entered--only one method is required.

Produce the lists in the order shown on the STC random parcel reports.

The report should be electronically sent (via diskette or modem) to the STC.

To maintain compatibility with existing systems, the list of all parcels may contain a control number in positions 46-52 (the carriage return and line feed would go in positions 53-54). If used on the list of all parcels, the STC would report that same control number on its random parcel report (in positions 26-32). The list of selected parcels may also include that number.

#### Taxpayer Change Notice

Ability to generate notice, based on subclass values for increases only, decreases only or for a range of real estate parcels. Notice to include parcel number, assessment by subclass, tax year and instructions on whom to contact, the appeal process and time frame for appeals.

#### 3.1.3 Add, Edit, View Ownership-Property-Value

Ability to input necessary data for assessment roll and aggregate abstract (Form 11/11A).

## **4.0 Appraisal Programs**

### **4.1 Cost Approach**

#### **4.1.1 General Requirements**

Ability to enter, edit, view improvements. Program shall look up base costs, calculate values and have override capabilities.

Ability to enter, edit, view land, both market value and agricultural- productive use. Capability to complete a mass land value update.

Ability to complete a mass update of improvement costs by user.

Ability to allocate a single improvement value to multiple subclasses.

#### **4.1.2 Property Record Card/Review Sheet**

Allow user to select individual, or a range of properties to be printed.

The design and specific requirements will vary with the cost system in use. The objective of the minimum requirements is to provide all the necessary data needed to list, cost and review real property. The following minimum data requirements are subject to modification at the discretion of the State Tax Commission.

Data required includes:

Parcel number, tax districts, property description.

Owner's name, address, date acquired, consideration, deed book & page  
land and improvement value, subtotals and assessed value by subclass.

Utilities, roads, topography, zoning, land use code, property type, building permits,  
construction code.

Data collection by and date, review by and date, information by.

Land quantity, lot size, acreage (deeded/calculated), type/description, land units, unit price,  
depth, depth factor, influence factor, value agricultural land grades, acres by grade, value by

grade, total agricultural land value.

Type of structures, number of apartments, rooms, bedrooms, stories,  
situs address, property name.

Construction data, year built, effective age (year built), remodeled, quality, base rates, extra  
feature costs and description, improvement area, depreciation (physical, economic and  
functional), improvement subclass(es), and value.

#### 4.1.3 New Construction Report

Ability to list, parcel number, addition/new, subclass, construction complete, notes,  
township, city, districts (school, road, fire, city, etc.), quality of construction, valuation  
and amount of assessment increase.

#### 4.2 Diagrams or Sketch Vectors

Ability to input improvement footprint(s), and calculate areas necessary for cost system  
application.

Print diagrams with appropriate notation and relative placement.

#### 4.3 Market analysis

Sale ratio: list parcel number, sale price, sale date, trended sale price, appraised value, sale  
ratio. Allow user to select neighborhood and time frame for sales. Descriptive statistics to  
include number of sales, low ratio, high ratio, mean sale ratio, median sale ratio, weighted  
mean ratio, coefficient of dispersion (about the median) and PRD (Price Related Differential).

Data to be arrayed based on sale ratio or parcel number order.

Ability to complete mass updates of index and land value rates as well as the selection of the  
time adjustment factor.

Ability to print a summary neighborhood sale ratio report which includes the descriptive

statistics for each neighborhood and the time frame of the study.

In addition, it is most helpful to the analysis process if the assessor has the ability to also stratify the sales by various criteria, (age, sale price, size, quality, style or condition assignment). These stratifications of the sales properties may assist the assessor in identifying areas of concern within the mass appraisal process.

Index study: list parcel number, sale price, sale date, trended sale price, land value, manual building value, year built, quality, indicated index and neighborhood. Reports to list data, array indicated indexes, determine number of sales, median indicated index and calculate indicated time adjustment factor. Ability to select a minimum of one year and up to three years (year built) for array.

Depreciation Study: list parcel number, sale price, sale date, trended sale price, land value, improvement RCN, age/year built, current condition and indicated condition. Reports to list data and array by age/year built-condition. Ability to select neighborhood, and quality range for study.

Land study: list parcel number, sale price, sale date, trended sale price, improvement value, residual land value, land units (type/number), adjustment factors (depth, influence etc.), indicated land value, indicated land value/unit, current unit price, neighborhood. Report should allow user to select neighborhood(s), current unit price range, vacant, improved or all sales. Report should array indicated land value/unit and identify median indicated land value/unit.

Prepare an analysis of improved samples in which the land is estimated as a percentage of the selling price, (allocation method) to determine if there is a proper balance between land value and improvement value.

#### 4.4 Agricultural Land

Ability to enter acres by agricultural land grade, calculate values, abstract totals (acres by grade, or value) by county or district.

Ability to edit and view grades by parcel.

## **5.6 CONTRACTING FOR SERVICES**

### **1. Appraisal**

In examining the methods used to carry out a reappraisal program, an assessor may wish to consider employing the services of a professional mass appraisal firm. Two forms of professional assistance may be considered: (1) revaluation by the assessor with the assistance of a mass appraisal firm acting as a consultant; and (2) valuation by a professional mass appraisal firm.

The relative merits of all three methods of carrying out a revaluation program, including the in-house system of revaluation by an assessor and his staff, should be carefully and thoroughly investigated. Each of these methods has its own advantages and disadvantages. Whichever method is adopted, it is essential that the assessor realize that a properly conducted reappraisal program requires the thorough and careful appraisal of all property. For this reason, it is essential that assessors who plan to engage the services of a mass appraisal firm should become familiar with the steps to take and the issues to resolve in order to ensure satisfactory performance on the part of the mass appraisal contractor.

#### **A. Revaluation With a Consultant**

If the assessor is capable of handling much of the work of revaluation but has not had the experience or training to develop necessary schedules and tables, the revaluation may be done under the direction of a consultant. Before the consultant is chosen, a thorough investigation of the consultant's qualifications and background should be made. Also, to avoid any misunderstandings,

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a written agreement should be drawn up between the county and the consultant definitely stating what work the county can expect, the fee agreed upon, and what the consultant's charge will be if any additional work will be required.



When conducting an in-house program, technical assistance may be required in the planning and organizational phases of the mass appraisal system. A qualified mass appraisal firm, with its years of expertise, will be able to assist the assessor in designing systems and applying the modern methods and procedures of the appraisal of real property. Technical assistance may also be provided in the areas of mapping and data processing.

The consultant's first responsibility may be to conduct a study of the local building situation, local construction costs, and local real estate sales transactions necessary to develop the valuation and classification schedules required for an effective mass appraisal system. It will also be necessary for the assessor to become acquainted with the use of these schedules in order to be completely familiar with the system. It may also be the consultant's responsibility to make sure that the persons employed to do the field work are trained in measuring and inspecting buildings and in recording the information obtained and also in the supervision of these personnel. The consultant may also assist the assessor in handling the revaluation of all real and personal property of commercial and industrial type properties.

The agreement may also provide that the consultant would appear at public meetings to assist the assessor in explaining how the updated assessments are derived. He should also instruct the local board of equalization in the use of the valuation schedules and techniques developed as they will need to be familiar with the system before the appeals are presented.

As discussed above, the range of duties of a consultant can vary from minimal requirements to virtually complete control over the day-to-day operations of the reappraisal program. It must be remembered, however, that the consultant is employed to assist and advise the assessor. The assessor is still in full charge of the revaluation program, and makes the final decision as to the methods, procedures, and basis of value used and makes sure that all phases of the revaluation program are adequately and competently accomplished.

**B. Revaluation By Professional Firm**

As many assessors lack staff, or the experience necessary to undertake the task of a general revaluation, it may be desirable to have the work done by a firm specializing in the reappraisal of property. While this method removes much of the burden of work from the assessor, it does not lessen the responsibility to the taxpayers in the county that the revaluation will result in current and fair assessments.

While the revaluation company takes the responsibility for updating cost schedules, doing the field work and computations, the assessor still has the final decision concerning valuations, procedures followed, method of depreciation adopted, and forms used. Throughout the program the assessor acts as appraiser-in-chief, working in full cooperation with the contractor, becoming thoroughly familiar with the procedures and methods, so that after the revaluation is completed the office will be able to maintain the values.

**C. Invitation to Bid**

The county should seek the bids of reputable and qualified mass appraisal firms who will be able to successfully and effectively complete the revaluation program. But before a contract is offered for bid, the assessor should review the local situation and then develop the county's specifications for revaluation. The assessor should ensure that these specifications clearly state the responsibilities, duties, and liabilities to be incurred by the company who obtains the contract, and the services and equipment to be provided by the county. It should also clearly state that every phase of the revaluation program is subject to approval and review by the assessor and the State Tax Commission. It must be remembered that the firm's bid is a response to the specifications contained within the invitation to bid documents and, therefore, nothing that is not specifically contained therein may be assumed.

County officials should develop a set of "Instructions to Bidders", "Specifications for Proposed

Revaluation”, and a “Bid Proposal Form”. The “Instructions to Bidders” should include the following:

- The location to which sealed bids should be sent.
- The final date and time of day that sealed bids will be accepted.
- A statement concerning examination of the proposed project in which the bidders should be instructed to inspect the proposed project’s site, to determine the circumstances affecting the cost of the proposed reappraisal project, and the staff and facilities necessary for a successful and effective completion of the project in the allotted time.
- A clause regarding surety, stating that each bid should be accompanied with a bid security instrument for not less than a stipulated percentage of the proposed total bid price, and with the name of the appropriate county official to whom the surety instrument should be made payable.
- The date, time, and place that the bids will be opened and read.
- The rights reserved by the county officials in accepting or refusing the bids and the method of distribution of the bonds of unsuccessful bidders.
- A requirement of submission of the qualifications of each bidder to include a brief summary of the company’s previous and current contracts of a similar nature, an organizational chart showing the staffing and lines of authority for the key personnel to be used on this project, the resumes of all key personnel to be assigned to this project, total staff available for this project, other affiliated companies, name of insurance company providing performance bond, etc. The county may wish to include the minimum qualifications of the company and its principle appraisers that it deems acceptable.
- A section delineating responsibility for interpretation of bid specifications.

Fundamentally, the primary and most important part of the bidding process is the “Specifications for the Proposed Revaluation”. These specifications define the requirements expected by the county’s governing body for an effective and efficient completion of the revaluation program. The following are some of the issues that should be covered in the contract specifications.

**(1) Purpose and Valuation Goals of the Reappraisal**

This section should set out the purpose of the reappraisal, the values sought, and the statutory requirements.

**(2) General Scope of Company's Service**

This should be a brief description of the responsibilities of the company in reference to the services to be provided. Reference should be made to the properties inventoried and to the properties excluded from this reappraisal project.

**(3) Approval of Personnel**

The competence of personnel is always a sensitive issue, and the assessor should reserve the right to approve all personnel used by the contractor. This section may include reference to any specification as to work experience required by the county. Requirements for proper identification should also be included.

**(4) Appraisal of Land**

This section would contain the requirements to be used by the company in determining land values.

**(5) Appraisal of Residential, Agricultural and Commercial Properties**

The approaches to value and the appraisal techniques to be employed by the company in valuing the different types of property should be specified.

**(6) Property Record Card (PRC)**

If property record cards are not supplied to the contractor, PRC specifications should be prepared and the assessor should approve all forms developed by the contractor prior to use.

**(7) Preparation of Base Cost Schedules/Cost Index**

The contractor should investigate and analyze local construction costs, market data, and economic conditions. If the county does not have a cost system in place, the contractor should supply base cost and valuation tables, formulas, and standards necessary for revaluation. All market studies used to establish the base rates or tables should be provided to the county in accordance with the approved assessment maintenance plan.

**(8) Use of County Records**

The types of county records and data to be provided by the county along with the policies for their use should be included in the specifications.

**(9) Final Review**

Final field inspections and review of each property should be made by a company's supervisory appraisers upon the completion of value computation.

**(10) Work and Delivery Schedules**

This section should contain starting and completion dates as well as a list of the items to be turned over to the assessor upon completion of the project.

**(11) Hearings and Defense of Values**

Requirements as to the company's obligation in notifying the taxpayers of the updated values as well as the holding of hearings to discuss these valuations should be defined. A company should also be required to defend its conclusions of value in the event of appeal.

**(12) Public Relations**

Throughout the program, the company and its employees should endeavor to promote understanding and amicable relations with the property owners and the public. It should assist and advise the county governing authority and the assessor in the preparation of newspaper articles and other appropriate publicity. The company should, upon request, make available suitable speakers to acquaint groups and gatherings with the methods and values of the project.

**(13) Training of Assessment Personnel**

One concern with contracting for appraisal services is the subsequent maintenance of the assessment system. Thorough training of the assessor and staff in the procedures used in revaluation can alleviate this problem. The contractor should specify the man-hours and the time frame for the training to be provided.

**(14) Insurance and Performance Bonds**

The company should carry adequate insurance coverage to indemnify the county from loss resulting from the actions of the company, its employees, and agents arising in the course of the company's performance of this contract. The company should also provide the county with a performance surety bond in an amount equal to 100% of the contract.

**(15) Office Space and Equipment**

Specifications as to the amount and type of office space to be supplied to the company's staff should be made. The responsibility of supplying the necessary furniture and equipment should be addressed.

**(16) Compensation and Progress Reports**

Provisions should also be made for the setting up of a payment schedule. A county should consider holding in abeyance a certain percentage of this payment until completion of the project. The company should be required to file a progress report at each billing interval declaring the type or types of work performed the preceding period, and a summary and percentage of total project completion. These progress reports will aid the assessor in determining if the project will be completed on schedule.

**(17) Restrictions and Completion Penalties**

Restrictions to the subletting and assigning of contracts should be imposed by the county. Should the company fail to meet any of the functions of this agreement or the date of completion, the county should be able to recover an amount of money for the incurred damages as stipulated in this agreement.

**D. Contractor Selection**

In considering bids, the county officials should consider not only the price for the work as stated in the proposed bid but also the experience and competence of the bidder. Further, consideration should be given to the nature and size of the bidder's organization and the quality of similar revaluations done by that firm.

A firm may be judged to be qualified if it has the resources--personnel, material, and financial--to accomplish the program as specified. The most important question today concerning material resources involves the use of data processing equipment. Financial resources include that the firm must be adequately capitalized to meet the financial obligations of carrying out the revaluation project. The experience of the firm and past business affiliations should be thoroughly investigated.

Qualifications expected for individuals may be judged in terms of education and experience. Frequently, specifications may require a minimum educational requirement of a high school education or its equivalent. The requirements for work experience should vary with the type of task to be performed. Clerical personnel should have adequate training, but extensive experience is not always necessary. Field appraisers should have two to five years of appraisal experience, while project directors should have about five to ten years of experience. Care should be taken to ensure that personnel used or hired have no conflicts of interest. The assessor should always maintain the right to approve all personnel used in the reappraisal program.

#### **E. Contract Preparation**

It is the assessor's responsibility to make sure that the contract drawn up with the revaluation company clearly and fully states the duties and responsibilities of the company and the obligations of the county. When a contractor has been selected and a contract executed, it will then be the responsibility of the contractor to complete the work.

The contract is an agreement between the county and the mass appraisal firm stipulating that for an agreed sum of money the mass appraisal firm shall conduct a revaluation program based upon the specifications set down by the county. Therefore, it is important that the "Instructions to Bidders", "Specifications for the Proposed Revaluation", and the "Bid Proposal" be made a part of this contract.



**F. Completion of Work**

All buildings, structures and improvements must be thoroughly inspected by a trained representative or agent of the revaluation firm. On inspection, new construction should be measured, a perimeter sketch drawn, the appropriate data or details of construction, condition and land data should be recorded. Inspection of existing data should include a review of the physical characteristics, the improvement's quality or grade, the assignment of depreciation and a review of the resulting value.

All revaluation work must be completed in sufficient time for the assessor to review and make necessary changes. Final inspection and review should take into consideration any known or apparent changes in individual properties since the first inspection to ensure that the final appraisal will be as of the date of completion of revaluation.

The appraisal firm must leave with the assessor all schedules for residential, commercial, and industrial property used as a basis for reappraisal values, including details of income approach, if used, and depreciation schedules used.

Complete office and field instructions must be provided so the assessor may be entirely familiar with the work of the revaluation as performed. Depending on the size of the county, two or more copies of all real estate data, land valuation tables and cost data covering commercial and industrial construction should be left with the assessor for future use.

The contractor, following completion of revaluation, should have a qualified member of its staff present at all hearings held by the assessor or board of equalization. The contractor should furnish competent witnesses to defend valuations challenged in the courts for a period of at least one year after the completion of the reappraisal program.

**2. Aerial Photography and Mapping**

Contracting for the professional services, whether it is for updated aerial photography or map maintenance, should follow the same general steps as found in the following outline.

**A. Invitation to Bid**

The initial step in the contractual process is the issuance of bid requests. The following check list provides the minimum items to be included in a request for bid.

**(1) Instructions to Bidders**

- Name, address, and telephone number of contact officer for the project.
- Size of county: square miles, population, and total number of parcels to be mapped.
- Timing: Final bid acceptance date; anticipated contract awarding date; time estimate for fulfillment of mapping program; and any specific scheduling instructions--for example, aerial photography to be done next spring, city maps to be completed first, etc.
- Special instructions to clarify the specifications attached to the bid request, for example: special mapping scales for certain areas; county data to be supplied--assessment records, maps, county clerk's records, etc.; progress report and payment specifications; special work to be done not covered in the technical specifications; training to be performed by the contractor; special instructions concerning the form of the returned bid proposal, number of copies, data requirements, etc.; surety and bonding; bid submission requirements; the rights reserved in accepting or refusing bids; and delineating the responsibility for interpretation of the bid specifications.

**(2) Project Specifications**

- General scope of the services required
- Bid proposal packages developed during preliminary survey
- Work and delivery schedules

- Insurance and performance bonds
- Compensation and progress reports
- Restrictions and completion penalties

**(3) Date to be Submitted by Respective Mapping Firms**

- Mapping firm qualifications, staff and equipment to be used for the mapping project, and references.
- Total cost of the project. If subcontractors are to be used, contractors should specify their fees, the work they will perform, and submit their qualifications.
- The cost of extra services not called for in the technical specifications.
- A project schedule showing the time allotted to each phase.

**B. Selecting the Contractor**

In awarding a contract, the selection of the contractor to provide the professional services required should not be based upon the cost alone. The awarding of the contract should be based on lowest and best bid. Therefore, in considering the proposed bid, consideration should be given to the experience and competence of the bidder, the nature and size of the bidder's organization, and the quality of similar work completed by that firm. A firm may be judged to be qualified if it has the resources--personnel, material, and financial--to successfully complete the program as specified.

**C. Monitoring the Mapping Contract**

In drafting the contract, it is important that the duties and responsibilities of the company and the obligations of the county or state are explicitly delineated. The final contract is an agreement between the county or state's governing body stipulating that the completion of the mapping program will be based upon the specifications as set forth. Therefore, it is important that the

instructions to bidders, project specifications, and bid proposal be made a part of the contract.

Throughout the mapping program, it is important that the assigned project director monitor the contract to verify that the work is being completed as specified. The monitoring process should include but not be limited to:

- Making necessary data available to the mapper
- Supervising aerial photography to the extent of assuring that correct scales are observed
- Reviewing aerial photography coverage
- Checking quality and completeness of the finished product
- Keeping the project on schedule
- Providing for proper and timely distribution of the finished product

## **5.7 ASSESSMENT MAPPING**

### **1. Aerial Photography**

The first step in the development of the existing mapping program was the acquisition of aerial photography. Aerial photography provides the assessor with a complete pictorial record of all land within the county. This visual record furnishes the assessor with indications as to the type of improvements to the land, their location, the contour and the utilization of the land, and other features relevant to the assessment process.

In addition, the photographic base map facilitated the development of the base cadastral maps by providing evidence as to identifiable property boundary lines. With the aerial photo as a base, the identification of property boundary lines can be aided by the location of walls and fences, hedgerows, streets and highways, rivers and streams, railroad right-of-ways, etc. These indications as to probable property boundaries may be used in the development of the cadastral base map when existing deed descriptions are not complete or are inaccurate.

#### **A. Preliminary Survey**

To be an effective tool in an assessment mapping program, aerial photography must be relatively accurate. The development of accurate aerial photography is a specialized field requiring the employment of skilled technicians using precision equipment. To ensure the successful completion of the mapping program, the conditions under which the aerial photography was obtained were thoroughly specified. A preliminary survey was conducted and included the development of county index maps, the development of a basic mapping module, determination of required mapping scales, identification of the types of aerial enlargements, description of the county control network, delineation of flight plans, and development of photographic specifications.

#### **B. County Index Map**

A county index map is a smaller scale map on which are depicted the areas to be covered by each base map. The index map delineates each basic map unit, showing the area covered by each 1"=400' map (approximately four sections of land or four square miles, or 2,560 acres), 1"=200' map

(covering 1 section of land or one square mile or 640 acres) and each 1"=100' map (which covers one-quarter section of land or 1/4 square mile, or 160 acres).

Included on the index map are township and range lines, location of cities and towns, primary road and street systems, lakes, rivers, and map identification numbers. The number used to identify each base map should be drafted to properly delineate and display an overall uniform and consistent county map numbering system. *Exhibit 5.16* is an illustration of a county index map.

### **C. Basic Mapping Module**

All assessment maps should conform to certain uniform characteristics. Basic mapping characteristics include a standardized sheet size, map layout, and a uniform map numbering system.

A uniform size for each map-sheet facilitates their handling and storage. Commonly used map-sheet sizes include 20" x 24", 20" x 30", 24" x 36", 30" x 30", and 32" x 36". In Missouri, a 36" x 36" map sheet size was selected. This size allowed the basic modular system to cover the three standard map scales.

Map sheets should have consistent borders and a standardized layout. A standardized map layout should contain a title block, a revision block, a legend, a map key, a North arrow, and keys to adjoining maps.

The numbering system is nothing more than a mechanism whereby maps of subsequently larger scale (maps covering smaller portions of the same area) are sequenced. Using the 1" = 400' as the smallest scale map in the system, it was designated as the basic modular unit in the mapping system.

The basic modules are then assigned a map sheet number. See section 5.7.4 for a detailed description of the Missouri Uniform Map and Parcel Numbering System.

### **D. Map Scales**

The choice of map scales varies with the density of development and with the size of individual land parcels. Small parcels should be shown at a scale sufficient to allow space for entry of parcel dimensions, block and parcel numbers, and other essential data. In most situations, one of three basic map scales serves the needs of counties within the State of Missouri. Recommended scales of

aerial photography are:        ***Rural***                    ***1" = 400'***  
   ***Semi-Rural***                ***1" = 200'***  
   ***Towns & Cities***        ***1" = 100'***

*Exhibits 5.17, 5.18, and 5.19* illustrates aerial photography taken at a scale of 1" = 400'; 1" = 200'; and 1" = 100'. Each larger scale of photography further defines coverage of an area reflected in the previous smaller scale of photography.

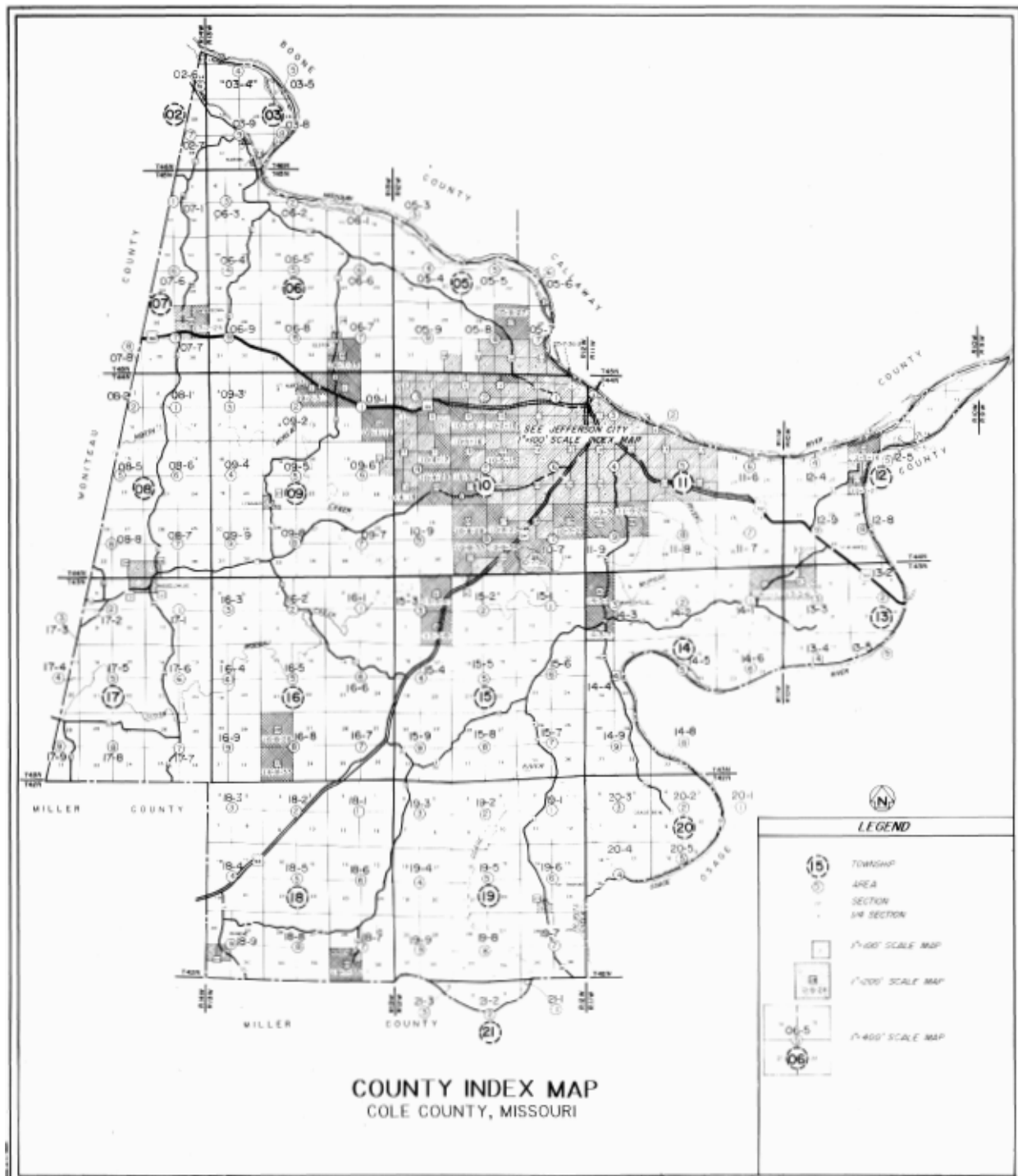
**EXHIBIT 5.16**



EXHIBIT 5.17  
AERIAL PHOTOGRAPHY - PROVIDED BY SURDEX CORP.  
MAPPING SCALE 1" = 400'



EXHIBIT 5.18  
AERIAL PHOTOGRAPHY - PROVIDED BY SURDEX CORP.  
MAPPING SCALE 1" = 200'



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EXHIBIT 5.19  
AERIAL PHOTOGRAPHY - PROVIDED BY SURDEX CORP.  
MAPPING SCALE 1" = 100'



**E. Aerial Enlargement Types**

Aerial photography varies in accuracy and cost. The least expensive, a straight photo enlargement is the least accurate. Orthophotography, a highly controlled photogrammetric process resulting in a highly accurate product, is by comparison quite expensive. The determination of the type of photography required in a given area is a function of topographical relief and parcel density.

On an accurate planimetric map, all features are depicted at their correct horizontal position, and the observer would thus have a truly vertical view of every detail shown. This standard is not met by aerial photographic enlargements due to the various sources of distortion or image displacement. Objects pictured on aerial photography may fail to register in their correct horizontal plane positions because of optical deficiencies, tilting of the camera lens-axis at the instant of exposure, or variations in local ground relief. Rectified photo enlargements are based upon a process that reconciles the photography in order to form a single, two-dimensional representation of the surface features. Through the use of predetermined, identifiable, and measurable ground control monuments, the effects of the various sources of distortion or image displacement can be corrected. However, distortion within the photograph is only corrected in those areas relative to the control points, a certain amount of distortion will still exist.

The orthophoto map is a cartographic document prepared by a technique that corrects each point of a photograph for errors introduced by the effects of the various sources of distortion or image displacement. It is the same in appearance as an enlarged aerial photograph, but the orthophoto map has been completely restituted and is as accurate as a planimetric map. The assessor, then, would be able to measure the distances between defined points of interest to determine their horizontal positions on the surface of the earth; an inch on a 100' map corresponds to that identical 100' on the ground, at any point on the photograph.

For counties with hilly terrain or extreme ground relief, orthophotography produces a base on which to compile maps with an acceptable degree of accuracy. In counties with minimal ground relief, good rectified enlargements produce acceptable scaling accuracies.

For the statewide reassessment completed in 1985, the State Tax Commission provided two types of base photography.

➤ **Rectified Photo Enlargements**

Areas with a minimal ground relief, small towns, and rural in nature were mapped through the use of rectified photo enlargements.

➤ **Orthophotography**

Highly developed areas and areas having considerable ground relief were provided with orthophotographic enlargements.

**F. County Control Network**

Sufficient horizontal and vertical control surveys are important in the establishment of a photogrammetric mapping system. Therefore, in order to develop the accuracy required for rectified and orthophotography and the development of the cadastral base maps, it was necessary to ascertain and delineate on each county map the existing control as established by the U.S. Coast and Geodetic Survey, the U.S. Geological Survey or State Geodetic Control Office. Where existing control data did not exist or was insufficient, a field survey was conducted to establish the necessary horizontal and vertical control.

The location of existing control stations and control points established by new ground surveys and/or aerial triangulation must be of sufficient accuracy and distribution so as to ensure that minimum standards of accuracy for the base cadastral maps may be met.

**G. Flight Plan**

Prior to the taking of aerial photography, a flight plan must be developed. A flight plan should include identification of flight altitudes and flight patterns. The altitude above average ground elevation for aerial photography shall be such that the negatives will be at the specified scale. A factor of greater than 5X is not recommended for assessment mapping. Photographic enlargements developed at a 1" = 400' scale would have a negative scale of 1" = 2,000'; enlargements developed at 1" = 200' would have a negative scale of 1" = 1,000'; and enlargements developed at 1" = 100' would require a negative scale of 1" = 500'.

A flight line is a line drawn on a map or chart to represent the track of an aircraft necessary to take the desired photos. Therefore, the flight lines would be laid out in such a manner as to achieve each

type of photographic coverage as specified on the county index map. Each flight line is developed to run through the center of each desired photograph at its individual scale and should run continuously across the entire project.

The base photographic maps of an assessment mapping program are most effective when the assessor is able to view the improvements upon each parcel. This requirement limits the amount of time available for the taking of aerial photographs. Aerial photographs for assessment mapping purposes are taken when trees are barren, and when the ground is not obscured by snow, haze, dust, etc. These requirements, therefore, limit the amount of time available during the year in which aerial photography may be conducted. In addition, another important and uncontrollable aspect is the weather. Therefore, in Missouri the taking of aerial photography is limited to a short period in the spring and fall seasons. Contracts for aerial photographic services should be awarded based upon these seasonal limitations.

#### **H. Photographic Specifications**

Aerial photographic work is ordinarily done by an outside organization under the terms of a contract. Fundamental responsibility for the content of the contract and its successful completion rests with the county. Thus, it is important that very careful attention be given to the accurate definition of expected products, the complete detailing of all essential steps in the process of map production, and the final completion of all work by a contractor. The specification should cover the following:

##### **(1) General Specifications**

General specifications should delineate the scope of the work to be completed. Descriptions of the areas to be photographed, the maps to be produced, and the type of map prints to be supplied should be identified.

##### **(2) Photogrammetry**

These specifications might cover ground control accuracy requirements, the qualifications of pilots and photographers, type of aircraft, cameras, and film to be used, the quality of the photography and standards for overlap, sidelap, crabbing, and tilt.

These detailed specifications covering the methods, procedures, and qualifications to successfully complete the aerial photography and base mapping program, including county index maps, mapping standards, mapping scales, types of enlargements, control networks, and flight plans, will be used as the basis in contracting for aerial photography and base mapping services.

## **2. Map and Parcel Identification Systems**

An important part of the mapping program was the development and implementation of a map and parcel identification system. A description of various systems used by other counties is included. The development of the Missouri Uniform Parcel and Map Numbering system is included as well. As some counties had already developed mapping systems, which included parcel identification, the use of the uniform parcel numbering system was not mandatory. As a result, there are a number of different systems used within the state.

### **➤ Characteristics of a Parcel Numbering System**

Parcel identification numbers, in order to perform their functions, possess a number of desirable characteristics.

### **➤ Uniqueness and Permanence**

The uniqueness of the parcel numbering system relates to the assignment of the parcel numbers. A parcel number should be assigned to one and only one parcel.

Permanence is closely related to uniqueness in that a parcel identification number should not be changed unless there is a change in the boundaries or configuration of the parcel.

### **➤ Simplicity**

Simplicity is achieved when the number of digits used in the parcel numbering system is minimized, when an identification system is comprised of only numerical symbols, and when the identification numbering system can be easily generated and understood.

### **➤ Convenience of Use**

Convenience of use is a function of the descriptive sequence of identifiers and the geographic location information contained therein. If the parcel identification numbering system is based upon geographic location information, the manipulation of property records



based upon these numbers is greatly facilitated. Geographic location information could be based upon the Geographic Coordinate System (Geocodes) or the Federal Rectangular Survey System.

**A. Standard Parcel Identification Systems**

The most common systems include the Geographic Coordinate System, the U.S. Federal Rectangular Survey System, and the Assessor's Map Book and Page System. A description of these standard parcel identification systems is presented as follows:

**(1) Geographic Coordinate Systems**

A geographic coordinate-based parcel identification system would be based upon the established system of plain rectangular coordinates which have been established by the United States Coast and Geodetic Survey for defining and starting the positions or locations of points upon the surface of the earth within the State of Missouri. The use of this identification system offers many advantages. Coordinate identification numbers easily satisfy the criteria for uniqueness and permanence in that no two points can occupy the same, identical positions upon the surface of the earth.

The format of the identification number is based on the establishment of coordinate points, called X Y coordinates. The "X" coordinate identifies the easterly or westerly value of the point and the "Y" coordinate identifies the northerly or southerly value of the same point.

The Missouri State Coordinate System is divided into three separate zones, to be officially known as "The East Zone", "The Central Zone", and "The West Zone". The list of counties contained within each zone is set out in Section 60.410, RSMo. The precise identification of the X Y coordinates, adopted by the United States Coast and Geodetic Survey, is contained in Section 60.450, RSMo. Therefore, a geocoding identification number must delineate the zone and the appropriate X Y coordinate points located within that zone.

An example of the format used to identify a parcel using the coordinate system is shown in *Exhibit 5.20*. This sample model is based upon the New York "Coordinate Locator Map Parceling Identification System".

**(2) Rectangular Survey System**

The rectangular survey parcel identification system is based upon the legal description of the property as described by reference to the subdivisions, lines, or corners as set out in the United States Public Land Survey. Contained within this parcel identification system is the numerical description of the township, section, and quarter section within which the property is contained. Apart from being more complex but slightly more permanent, the government survey-based parcel identification system compares quite closely to the map-based parcel identification systems. This system may also be adapted to identify properties contained within urbanized and highly developed areas. An illustration of a parcel identification number based upon the Rectangular Survey System is illustrated in *Exhibit 5.20*.

### (3) **Map Book-Page Identification System**

A map book-page system identifies a parcel by assigning to it a string of codes, each code describing certain elements.

#### ➤ **Map Book Number**

This number identifies the volume or book containing the map page upon which the identified parcel is contained. For example, the total number of map sheets required to delineate property within a county are contained in fifteen books.

#### ➤ **Map Page Number**

The map page number identifies the page upon which the parcel being identified is contained. For example, each of the fifteen books used in the previous example contained twenty-five pages. The map page number should also be set up to identify the modular layout of that particular page.

#### ➤ **Map Block Number**

The map block number is used to delineate a particular portion of the map page where the property is located. The boundaries of a map block may be delineated by street patterns for those maps containing urbanized or highly developed areas or quarter section boundaries for those maps containing rural areas. For example, a map page covering a rural portion of a county containing a section of land may be divided into four blocks with the following block numbers: NE one-quarter equals 01; NW one-quarter equals 02; SW one-quarter equals 03;

SE one-quarter equals 04.

➤ **Parcel Number**

The parcel number is the number used to identify each individual parcel contained within a map block section. For example, the northwest quarter of a section may contain four individual parcels which would be assigned parcel numbers 01, 02, 03, and 04.

An illustration of a map book-page identifier is shown in *Exhibit 5.20*.

EXHIBIT 5.20		PARCEL IDENTIFICATION SYSTEM		IDENTIFIER	
SYSTEM					
Geographic Coordinate System		66868	109773		
		Grid	Grid		
		Location	Location		
		E/W	N/S		
Map Book-Page System		10	02	03	
		Map	Map		
		Book	Block		
		Number	Number		
Rectangular Survey System		13	23	203	010
		Township	Section	Block	Parcel
		Code	Number	Number	Number
Missouri Uniform Map and Parcel Number System		058	07	05	35
		County	Township	Area	Section
				1/4Sec	Block
				2	04
					41.00
					Parcel

### 3. **Cadastral Base Mapping**

The concluding step in the assessment mapping program was the drafting of the cadastral maps. The purpose of the cadastral map is to accurately delineate and identify all the parcels of real estate within the county. The preparation of the cadastral map, a planimetric map upon which a draftsman plots or lays out the boundaries of the legal description for each parcel, is recognized as a highly specialized activity requiring skilled personnel and specialized equipment. The development of the cadastral map requires the compilation and coordination of all existing survey and property descriptive data.

The cadastral mapping system should consist of a complete set of detailed property boundary maps for the entire county. The cadastral map or ownership overlay should be recorded on a transparent medium (mylar), see *Exhibit 5.21*, to be superimposed upon the base aerial photo, see *Exhibit 5.22*, to provide for the development of the assessment map or composite map, see *Exhibit 5.23*. The use of the cadastral map on an overlay basis is highly recommended. Through the use of mylar overlays, a county may update base aerial photography without the complete redrafting of the cadastral maps.

In Missouri the development and installation of the cadastral mapping system was performed under the major steps listed and explained below.

#### A. **Planning**

The completion of an accurate and effective cadastral mapping program requires careful planning in the areas of map coverage, data to be recorded, and mapping standards.

Each individual cadastral map was drafted at the same scale as its aerial photographic base. Therefore, each county will have a cadastral map for each aerial base photo map at the same scale.

The ownership overlay contains the essential data pertinent to the county assessor. However, it should not be cluttered with excessive data which is of minor significance. A detailed assessment map should contain the following information:

- Boundaries of individual parcels

- Parcel dimensions or areas
- Names and boundaries of subdivision plots including block and lot numbers
- Boundaries of county, township, municipalities, and other taxing districts
- Location and names of streets, highways, alleys, railroads, rivers, lakes, etc.

EXHIBIT 5.21  
CADASTRAL BASE MAP (OWNERSHIP OVERLAY)

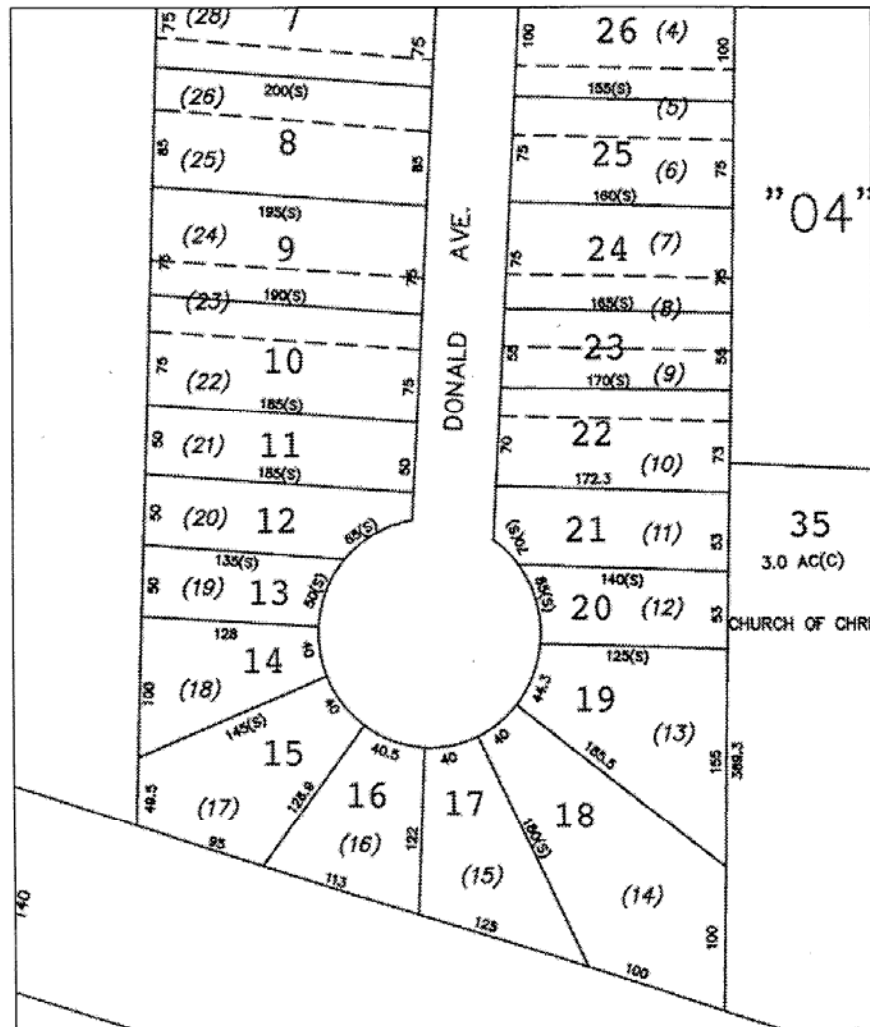
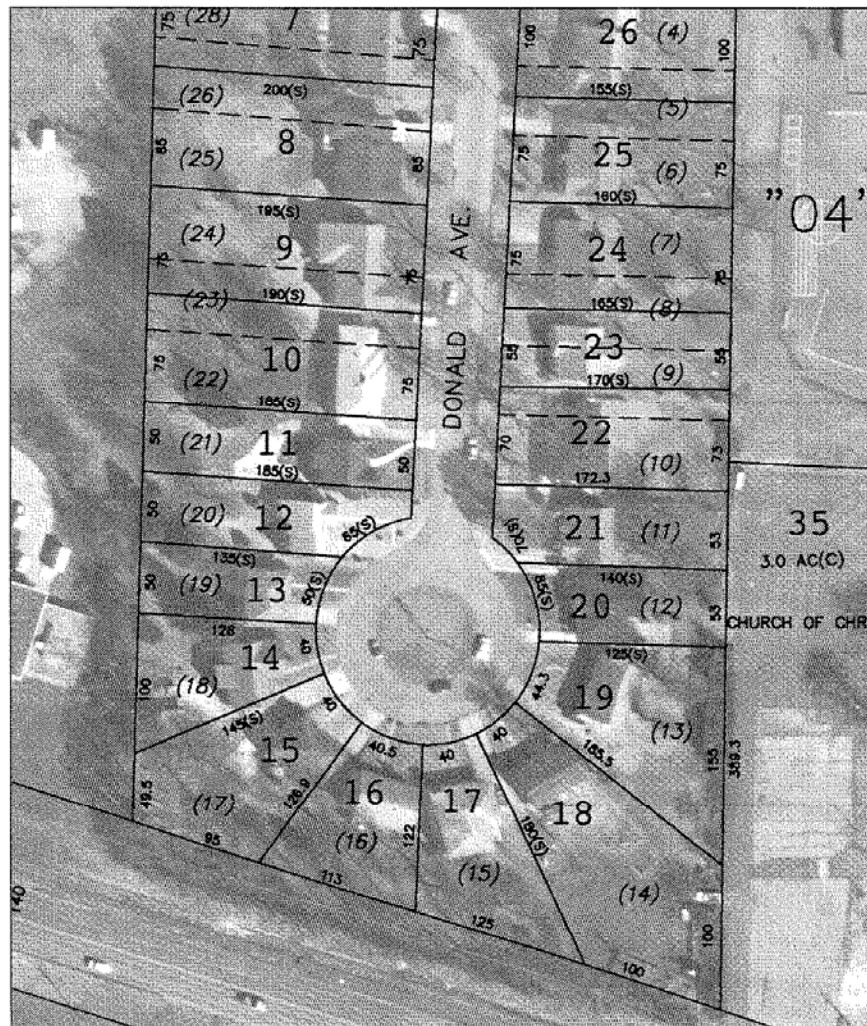


EXHIBIT 5.22  
BASE AERIAL PHOTO MAP  
PHOTOGRAPHY PROVIDED BY WALKER & ASSOCIATES





EXHIBIT 5.23  
ASSESSMENT OWNERSHIP MAP  
(COMPOSITE COPY) PHOTOGRAPHY PROVIDED BY WALKER & ASSOCIATES



- Parcel identification number of each respective parcel.
- Basic map information to include title block, page number, map scale and adjoining page number references.

If a cadastral mapping program is to be maintained on an out-of-house basis, a thorough understanding of the procedures to be followed is required of assessment personnel.

### **B.     Data Research**

The basic descriptive data for each parcel of real estate was obtained from deeds. In addition, the mapping contractors utilized recorded documents such as subdivision plats, right of way plans, and other maps which clarified the location of property boundaries or planimetric detail.

Deed research involved locating and examining the deeds of all parcels in the county which were not included in a subdivision. When collection of all descriptive data was completed, the data was sorted geographically so a draftsman could coordinate the data in preparation of the layout sheet.

### **C.     Initial Deed Plotting**

The next step in the cadastral mapping program consisted of carefully plotting, at the proper scale, all of the survey data relating to the identification of parcel boundaries. This was often a difficult task due to localized inaccuracies of the descriptive data which did not readily fit together. However, the base aerial photography was of great benefit at this stage. From the aerial photograph, it was possible to trace section lines, streams, lakes and rivers, roads and railroads, and many property boundaries. It was important, however, that mapping personnel constantly checked these indicated boundaries against available data for accuracy.

Upon completion of initial deed plotting, all conflicting property descriptions and boundaries were investigated and corrected where possible. The investigation of these conflicting boundaries may have required further deed research, field checks, or meetings with the owners of the parcels containing the conflicting boundaries.

After the initial layout maps were prepared, the mapping personnel then assigned parcel

identification numbers to each individual parcel. *Exhibit 5.24* illustrates the line work and notes which are plotted on the initial deed layout sheet.

#### **D. Final Ownership Maps**

When the respective layout sheets were complete and parceled, the final ownership map was inked. The final ownership maps were drafted on dimensionally stable drafting film (mylar) with waterproof ink. Doing so ensures the long life of the map with good reproductive qualities.

Upon completion of the cadastral maps, each map was checked for accuracy. Each map was compared with the sources of descriptive data and the initial layout sheets. All words, figures, numbers, title page references, and dimensions should have been carefully checked for accuracy and completeness.

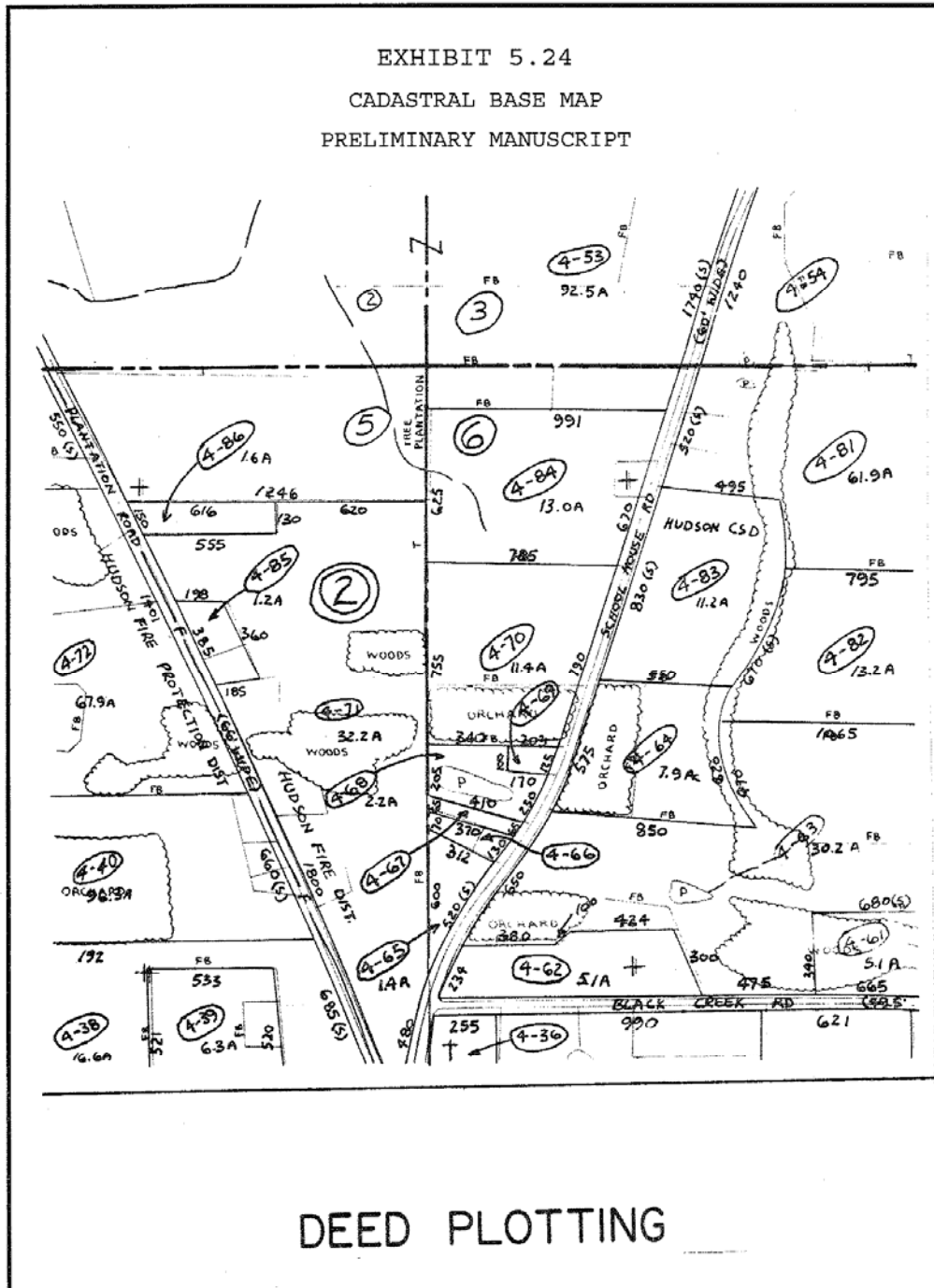
The ownership maps provide the final overlay for the assessment map. By combining the base aerial photo with the ownership overlay, a composite print may be made, thus developing the final assessment map to be used by assessment personnel. The master ownership overlays represents a considerable investment and if damaged, lost, or destroyed would represent a substantial loss. Therefore, they should be stored in a fire-proof drawer cabinet. The masters should be removed only to reproduce additional copies of assessment maps or when they are being brought up-to-date by mapping personnel. *Exhibit 5.25* represents the final drafted base cadastral map for *Exhibit 5.24*.

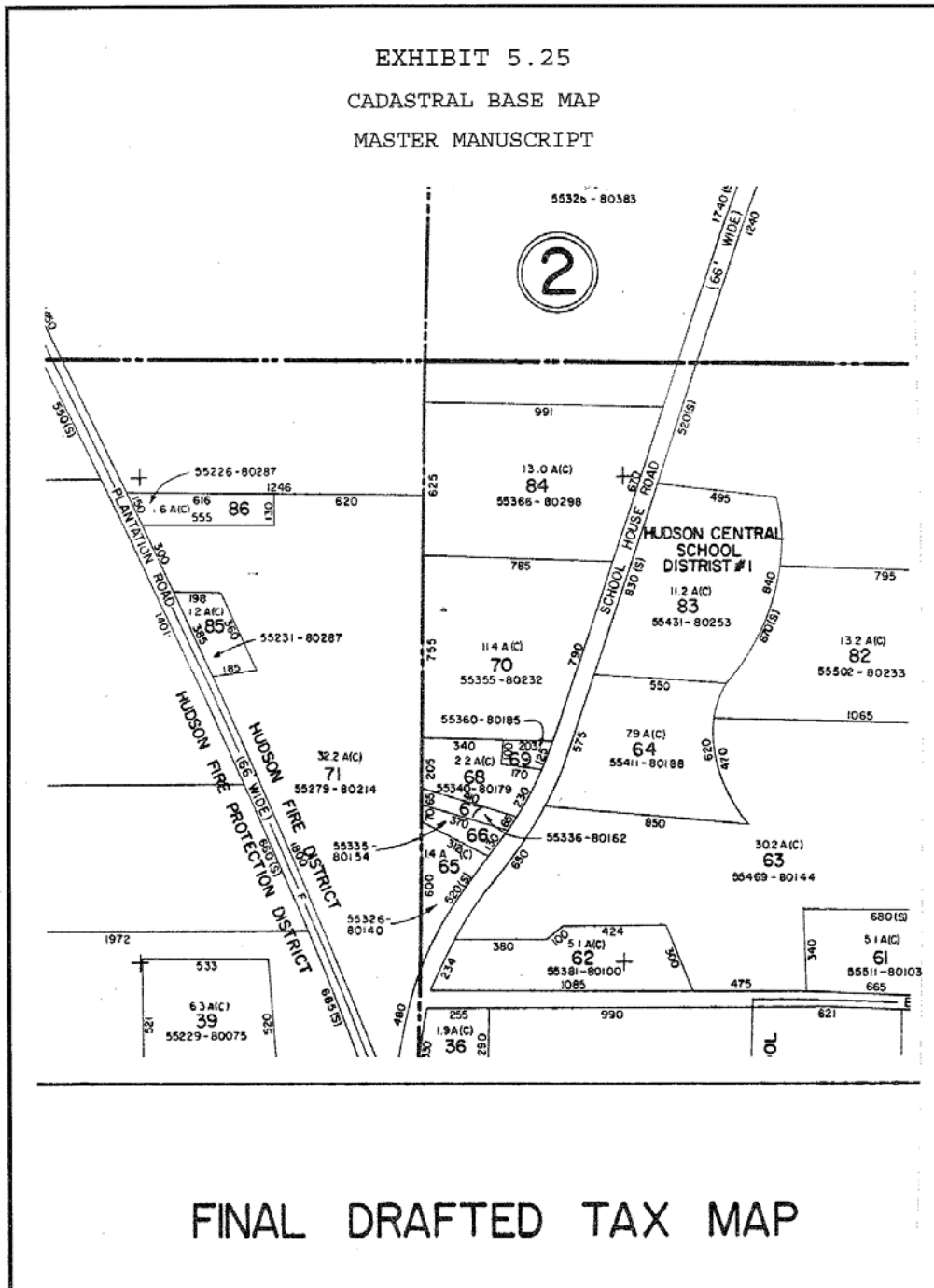
#### **E. Assessment Map Prints**

With the acquiring of aerial photographic base maps and the development of cadastral base maps, the assessor will have an additional official record of assessment data relating to the parcels within the county. In effect, the assessor has acquired a visual representation of the assessment roll. As such, these maps will be subject to constant use by assessment personnel, county officials, real estate brokers and appraisers, taxpayers, and others interested in this information. Therefore, the assessor should arrange for the development of additional prints. Several sets of prints should also be retained for use by assessment personnel as follows:

- Drafting use by mapping personnel
- General office use

- By appraisers for field work in locating, appraising properties and for display of appraisal valuation data and value conclusions





#### **4. Missouri Uniform Map and Parcel Numbering System**

##### **A. The Missouri Uniform Parcel Numbering System**

The parcel numbering system contains seven sets of numbers, designed to locate the parcel geographically as well as by ownership map sheet. The numbering system identifies the county, township, map area, section, and the individual parcel number. The system is designed to be completely numerical rather than alphabetical to facilitate data processing. A description of the seven sets of numbers is as follows:

##### **1. County Number**

Is the same as the number appearing on each individual county contract map. This number will consist of up to three (3) digits.

##### **2. Map Township Number**

Is the number of the township in which the parcel is located (townships normally consist of thirty-six (36) sections, 1 thru 36). Each township within the county has been assigned a township number rather than reference the public land survey township and range. The townships shall be numbered sequentially from east to west and west to east in a serpentine manner within each tier so the easternmost township in the most northerly tier would be 01. If a township is less or larger than normal size, it is still numbered in its proper sequence. The township number will consist of up to two (2) digits.

##### **3. Map Area Number**

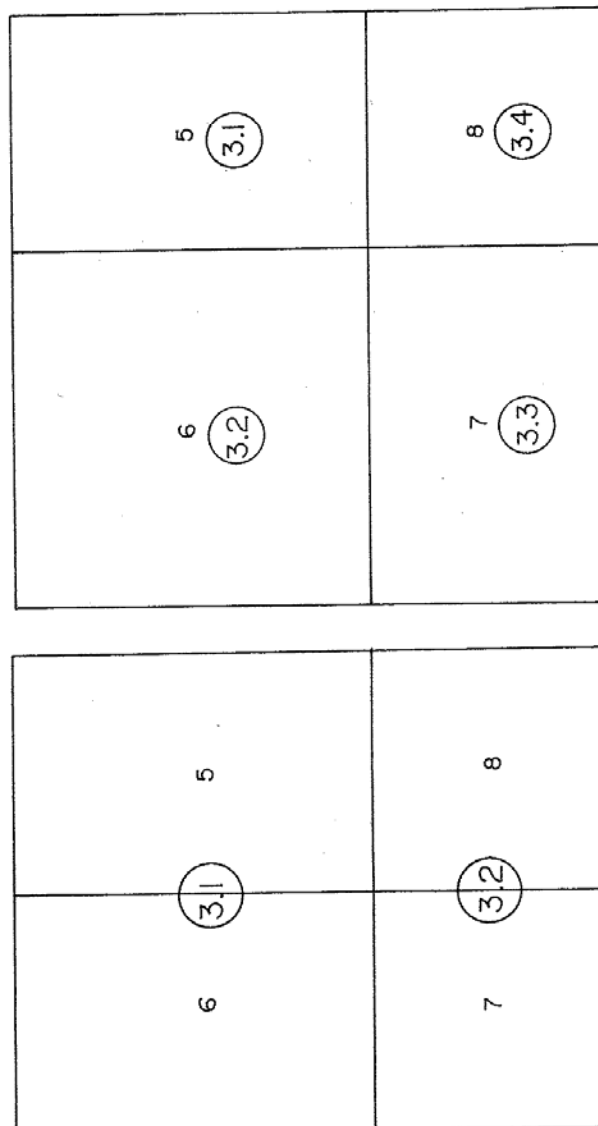
Is a reference to the four (4) section area within each township that would comprise a 1" = 400' scale ownership map sheet. Each township has been broken into four (4) section areas, two sections high (N and S) by two sections wide (E and W). Under normal conditions, there are nine (9) map areas to a township. The areas are numbered sequentially from east to west and west to east in a serpentine manner as are the townships. The northeasterly group of four (4) sections within a normal thirty-six (36) section township would be numbered 01 and the southwesterly would be 09, so that sections 1,2,11,12 comprise map area number 01 and sections 2,3,9,10 comprise map area number 02 etc. If a township is less than normal in size or cut by a county boundary, an area may contain less than four (4) sections. If the township is cut by a county boundary, the area will be assigned the same

number it would normally have in its location within a thirty-six (36) section township. The map area number will typically consist of up to two (2) digits.

In areas where the four sections are too large to be included on a single base map and the area has to be split into more than one or two base maps, then the following will apply. If the two sections in the north portion of an area are separated from the two sections in the south portion, then the number for the top portion becomes 3.1 and the bottom portion is 3.2. If the area is split even further, then the counter clockwise numbering system takes effect. The northeast section will be 3.1, the northwest is 3.2, the southwest is 3.3 and the southeast becomes 3.4. See *Exhibit 5.26* for an example.



EXHIBIT 5.26  
MAP AREA LOCATOR NUMBERS  
FOR OVERSIZED SECTIONS



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#### 4. Section Number

Is the public land survey number of the section of land in which the parcel is actually located. This will be numbered from 1 to 36. The section number will consist of up to two (2) digits. In areas where land is not described in accordance with the public land survey, the section number has been projected.

#### 5. The Quarter Section or Quarter Quarter Section Number

Is to be the 1/4 section or 1/4 1/4 section in which the parcel is located. These numbers will run in a counter-clockwise manner with the NE quarter being number one (1), the northwest being two (2), the southwest being three (3), and the southeast four (4). In the case of 1" = 50' scale map sheets the northeast quarter of the northeast quarter will be 101, the NW 1/4 of NE 1/4 102, the SW 1/4 of NE 1/4 103 and the SE 1/4 of SE 1/4 would be 104, etc.

#### 6. Map block number

On 1" = 100', each map sheet will be broken down into blocks bounded by geographical features such as roads, streams, railroads etc. Each block will carry a separate map block number and will be numbered sequentially starting in the most northeasterly corner of the map sheet and running serpentinely from east to west and west to east. The block number will be a three (3) digit number from 001 up to 999. NOTE: There should be no sub-blocking of the 1" = 50' scale map sheet. Each map at the 1" = 50' scale will constitute a map block.

#### 7. Parcel Number

Is the number assigned to each individual parcel. This number identifies individual parcels within a block, quarter section map sheet or section map sheet. The parcel number can consist of up to three (3) digits.

The following system will be used in establishing the parcel numbering system for splits or sell off, leasehold improvements and condominium owners:

#### ➤ Splits:

When an owner sells a part of the parcel, the split-off will be assigned the original number from which the land was sold plus the addition of a decimal number to identify the split. EXAMPLE: Mr. Jones owns a parcel of land and the tract he owns is identified on the ownership map sheet as parcel 15. He sells part of this tract to Mr. Smith. The parcel

number assigned to Mr. Smith to identify the split will be 15.01. Using this system of identifying splits, up to 99 split-offs can be sold off any individual tract of land, the sequence being from 15.01 thru 15.99.

➤ **Leasehold Improvements:**

The tract of land or lot in which a leasehold improvement is located will be assigned a basic parcel number and the improvements that are owned by other parties and considered to be a leasehold improvement will be assigned the basic parcel number plus the addition of a decimal number to identify the improvement.

➤ **Condominiums:**

The tract of land or lot on which a condominium is located will be assigned a basic parcel number. Each condominium owner will be assigned a decimal parcel number in the same manner as splits or leasehold improvements as stated above.

**B. Ownership Map Numbering System**

The ownership map numbering system will follow identical with the uniform parcel numbering system:

1. 1" = 400' Scale Map Sheets

The map sheet number for 1" = 400' will be the county number, the township number, and the map area number.

EXAMPLE:

048	-----	10	-----	05
Cole County		Township		Area
County Number		Number		Number
From Contract Map				

Thus three (3) sets of digits shown in the title block of a map sheet would indicate a 1" = 400' scale map.

2. 1" = 200' Scale Map Sheets

The map sheet number for 1" = 200' will be the county number, the township number, the map area number, and the section number that the map sheet actually covers.

## EXAMPLE:

048	--	10	--	05	--	16
County		Township		Area		Section
Number		Number		Number		Number

3. 1" = 100' Scale Map Sheets

The map sheet number for 1" = 100' will be the county number, the township number, the map area number, the section number and the quarter section number.

## EXAMPLE:

048	--	10	--	05	--	16	--	2
County		Township		Area		Section		Quarter
Number		Number		Number		Number		Section

NOTE: Quarter section #2 indicates the NW quarter of section 35. Thus five (5) sets of digits appearing in the title block would indicate a 1" = 100' scale map sheet.

4. 1" = 50' Scale Map Sheets

The map sheet number for 1" = 50' will be the county number, the township number, the map area number, the section number and the quarter quarter section number.

EXAMPLE: 048-10-05-16-201

048 - Being the number from the county contract map. In this case Cole County

10 - Being the township number.

05 - Being the area number. In this case 07 would be sections 25,26,35 & 36.

16 - Being the section number

201 - Being the quarter section and the quarter quarter section number. In this case the first digit indicating the NW quarter and the last two (2) digits indicating the NE 1/4 of NW 1/4.

Thus five (5) sets of digits appearing in the title block with the last set being three (3) digits instead

of one (1) would indicate a 1" = 50' scale map sheet.

NOTE: The ownership map number will never include the map block number. No map blocking will occur on the 1" = 50" scale map sheets.

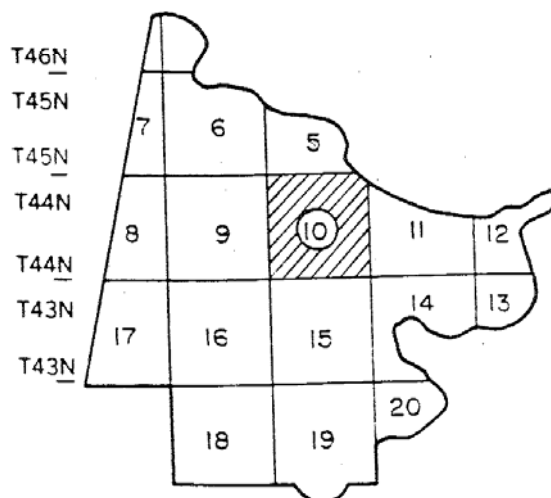
*Exhibit 5.27* demonstrates the basic mapping module as defined by the Missouri Uniform Map Numbering System. In the example is the Cole County township locator, which shows how the township numbers have been assigned. In addition, the exhibit shows the map sheet index and a 1/4 section index and how the area numbers are assigned to specific sections.

## EXHIBIT 5.27

## Missouri Uniform Map Numbering System

## TOWNSHIP LOCATOR

| R14W | R13W | R12W | R11W | R10W



(COLE COUNTY)

## MAP SHEET INDEX

6	5	4	3	2	1
3	8	9	2	10	11
7	8	9	10	11	12
18	17	16	15	14	13
4	20	21	5	22	23
19	20	21	22	23	24
30	29	28	27	26	25
9	29	28	27	26	25
31	32	33	34	35	36

## 1/4 SECTION INDEX

2	1
3	4

## **5. Assessment Map Maintenance**

Continual maintenance is necessary as this system provides the foundation for all real property files and assessment activities. The required update is usually keyed from information received from the recorder's office in the form of property transfer, new subdivision filings, new surveys, or highway and road surveys. If only a change in ownership is involved, the assessment staff makes the proper entries on the property record card, mapping index cards and the computer for the assessment roll. If a split or combination of existing properties is involved, the clerk forwards the deeds, map index cards and the appropriate property record card(s) to the mapper. After the needed modifications are made to the ownership map, the mapper forwards all data to the appraisers for review and/or allocation of existing values relating to the affected parcels.

Examples, one at each of the three basic map scales, of a complete assessment map with parcel boundary lines overlaid onto the aerial photography are illustrated in *Exhibit 5.28 through 5.30*.







COMPLETE ASSESSMENT MAP - 1" = 100'



Once a mapping system has been installed, it is an absolute necessity to carry on with a maintenance program. Otherwise the initial effort and expense in installing will be negated in a year or two. The assessment process requires the timely collection, assimilation, and distribution of ownership-related data to ensure continuity of all records.

An organized maintenance program can be very routine and easy. It simply involves making ownership and boundary line changes periodically. This can be accomplished on a weekly, monthly, semi-annual or annual basis, whichever is most feasible. To make the changes, you will need a copy of all recorded deeds, wills, plats and surveys which are filed for record in the courthouse. Occasionally you will need to contact certain property owners about changes that occur that are not filed for record.

Each assessor's office can organize its maintenance program according to workload and personnel.

**A. Maintenance of Maps and Office Records**

The assessor is responsible for the maintenance of the assessment maps and records and often must initiate systems internally that will ensure the constant updating of ownership data.

Procedures, such as the following, have been initiated to ensure the integration of current ownership data into the assessment process:

1. Procedures to gather assessment-related data (recorded documents, building permits, field maps, etc.) from internal and external data sources (state, county, city, etc.).
2. Procedures for maintenance of mapping and office records.
3. Procedures for dissemination of updated assessment information to appropriate users.

A good assessment map system accomplishes the following:

1. Locate all parcels
2. Identifies the owner of record
3. Delineates boundaries
4. Provides unique parcel identifiers
5. Provides an inventory of all real property
6. Provides administrative data
7. Provides a graphic format appropriate for assessment uses
8. Provides for convenient updating and corrections

9. Provides for easy reproduction

The cost of a good mapping system is great, but the benefits of such a system are also substantial. Cost effectiveness is achieved when the maps are prepared and maintained in such a manner as to give them utility for other agencies as well as the assessor's office. Planners, statisticians, demographers, engineers, and surveyors, are all potential users of the assessment map.

**B. Map Contract Deliverables**

The county received the following material under the original contract for mapping. It can be utilized by the county in a maintenance contract or for in-house map maintenance.

**(1) Aerial Film**

Scale: 1" = 40,000" and 1" = 12,000"

**(2) Aerial Photography (Rural)**

- 9" x 9" contact prints at the same scale as the aerial film
- One (1) photo index covering entire county, scale: 1" = 400'
- Screened enlargements of the same scale depicting (4) sections per sheet.

**(3) Orthophoto Base Photography**

Showing all ground features for use in preparation of the ownership maps at a scale of 1" = 200" or 1" = 100'

- One (1) set stereo contact prints, scale: 1" = 12,000"
- One (1) set original ortho negatives, scale: 1" = 1,000'
- One (1) set photo indexes of areas produced orthographically

**(4) Ownership Maps**

- Ownership maps scale 1" = 400' normally covering the rural area of the county and which is normally comprised of 4 sections. 1 mylar overlay and 2 ozalid prints.
- Ownership maps, scale 1" = 200', is normally comprised of 1 section. 1 mylar overlay and 2

ozalid prints.

- Ownership maps, scale 1" = 100', is normally comprised of a quarter section. 1 mylar overlay and 2 ozalid prints.
- Ownership maps, scale 1" = 50', which will normally cover the downtown area and is broken on streets, roads or nature boundaries. 1 mylar and 2 ozalid prints.
- One (1) mylar and two (2) ozalid prints each of index maps of entire county depicting all ownership map numbers. One index for the 1" = 400' and 1" = 200' scale maps, and one index for the areas mapped at 1" = 100' scale.

#### **(5) Additional Mapping Aids**

- Original plats and surveyor's field notes used in establishing township, range and section lines.
- All right-of-way acquisition surveys or plans for all highways which currently exist in the county.
- One set of topographic maps covering the entire county. (7 1/2' series or 15' series.)
- Railroad and cross country map type utility right-of-way plans.
- One (1) set Work Index Cards with deeds attached filed geographically by map and parcel number and one (1) set of Final Index Cards filed alphabetically.
- Microfilm copy of all Ownership Overlay Mylars and Final Alpha Index Cards indexed and labeled.

### **C. Map Maintenance Requirements**

#### **(1) Source Documents**

The mapper will obtain and use the following materials in addition to other material or documents as required in the maintenance and updating of the ownership maps:

- All recorded vesting instruments that sell, transfer or convey ownership of real property or ownerships including wills and trusts during the period of the contract.
- All newly recorded subdivisions or resubdivisions of existing subdivisions and all local surveys.
- All right-of-way plans for new roads, railroads, and changes of existing

right-of-ways for all Federal, State, County and City streets. Final ownership maps must show the right-of-ways of all U.S., State, County and Municipal highways, roads, streets along with the dimensions of such right-of-ways.

- All new right-of-ways for transmission lines (gas or electric) as well as right-of-way dimensions.

### **(2) Minimum Map Inclusions**

As a minimum, the final ownership maps will depict only the major detail from the planimetric base with at least the following detail shown:

- Each established parcel and its boundaries
- Township, Range and Section boundaries and numbers
- U.S., State, County, Municipal, etc., Highways, Roads, Streets and Name or Number. This includes determination of and the showing of ROW's and their dimension.
- Township, Range and Section boundaries and numbers
- Political boundaries and subdivisions
- County boundaries
- Municipal boundaries
- Government Lot Numbers
- Subdivision names, block and lot numbers, or other designations
- Canals, rivers, creeks, etc.
- Railroad Right-of-Way
- Major utility lines as shown on planimetric manuscripts
- Churches, schools, cemeteries, airports, government lands, etc. are to be identified on the ownership map by name.

### **(3) Drafting**

Final Ownership maps have been drafted on a matte finish, both sides, .004" polyester stabilized base mylar, or equal. The overall sheet will be 36" x 36". The master to be used in printing the blank mylar map sheets will be furnished by the County. The final maps depict the following approximate areas:

Scale : 1" = 400' - 4 sections per map

1" = 200' - 1 section per map

1" = 100' - 1/4 section per map

1" = 50' - 1/16 section per map

All maps shall contain an index showing where it fits into the adjoining map sheets. A suitable legend list shall also be provided on each map.

Unless otherwise noted, all maps have been oriented and constructed with north at the top of each sheet.

All maps will show deed or plat dimensions decimally on all parcels under three acres. All subdivisions or platted lots will, regardless of size, show dimensions. Area on all parcels under ten acres will be shown to the nearest one-tenth (1/10) acre, and all parcels over ten acres to the nearest acre. The acreage will be calculated on every parcel over one acre, either by electronic of polar planimeter or by scaled calculations. If a polar planimeter is utilized for this purpose, the computation should be based on the average of three (3) separate readings.

In those cases where differentials exist in the boundary dimensions as stated in the deed of more than 3%, the boundary will show both dimensions, designating deed dimensions with a small (d), and scale dimensions with a small (s) after the number. Where the differential between deed and scale is less than 3%, only deed dimensions will be shown. It will not be necessary in those cases for a small (d) to be shown. Where differentials exist in area as stated in the deed by a margin greater than the tolerance listed in the table below, then the parcel will show both deed and calculated acreage.

Over 1 acre up to 10 acres	5% difference
Over 10 acres up to 40 acres	4% difference
Over 40 acres up to 160 acres	3% difference
Over 160 acres up to 640 acres	2% difference

Deed acreage, designated by a small (d), will be placed directly under the parcel number and calculated acreage, designated by a small (c), will be under the deed acreage. Where the differentials are less than those listed only deed acreage will be shown and it will not be necessary that it be designated by a small (d). In cases where no acreage is defined in the vesting instrument or in cases where parcels must be split, calculated acreage only will be used and will be designated by a small (c). The differentials in both dimensions and acreage will be shown on the ownership index cards.



Final drafting shall be done in Pelican TN ink or approved equivalent. Drafting shall be accomplished to provide clear and legible lines, symbols and lettering. Uniformity of line weight, symbology, and lettering are required.

Lettering will be accomplished by use of mechanical lettering templates (Leroy or approved equivalent). No hand lettering will be permitted.

#### **D. Drafting Standards**

##### **(1) PEN WEIGHT AND TEMPLATE GAUGE FOR 1" = 200', 1" = 100' MAPS**

<u>SUBJECT</u>	<u>PEN WEIGHT/TEMPLATE</u>		
Roads and Street Names	1 Pen/120L Template		
Alleys	00"/80L	“	
Parcel Number	1"/140L	“	
Original Lot Number	00"/120L	“	Slant
Creeks, Streams, Etc.	0"/120L	“	Slant
Rivers, Lakes, Etc.	1"/175L	“	Slant
Deed Dimensions	00"/100L	“	
Scaled Dimensions	00"/100L	“	
Road Dimensions	00"/80L	“	
Deed Acreage	00"/100L	“	
Calculated Acreage	00"/100L	“	
Church, Cemetery, School			
Names	00"/80L	“	
Ownership Block Number	2"/240L	“	
Original Block Number	2"/200L	“	
Transmission Lines	00"/80L	“	<u>Dashed Line</u>
See Note	0"/120L	“	
Adjoining Map Number	00"/100L	“	Slant
Conflict	0"/120L	“	
State Line	4 Pen		
County Line	4 Pen		

Township and Range Lines	4 Pen		
Section Lines	3 Pen		
Quarter Section Line	1 Pen		
Corporate Limit Line	3 Pen		
Railroad R/W	0 Pen		
Highway R/W	1 Pen		
Property Boundary Lines	1 Pen		
Original Lot Lines	00 Pen		
Water	00 Pen		
Land Hooks	00 Pen		
Transmission Lines	00 Pen		
State Name	2 Pen/200L Template		
County Name	2"/200L	“	
Township and Range Number	1"/140L	“	
Section Number	1"/140L	“	
Corporation Name	1"/140L	“	
Railroad Name	00"/120L	“	Slant
Interstate Highway	1"/140L	“	
U.S. Highway	1"/140L	“	
State Highway	1"/140L	“	
County Highway	1"/140L	“	
Map Number	2"/200L (Minimum)		
District Names	1"/140CL		

**(2) PEN WEIGHT AND TEMPLATE GAUGE FOR 1" = 400' MAPS**

<u>SUBJECT</u>	<u>PEN WEIGHT/TEMPLATE</u>
State Line	4 Pen
County Line	4 Pen
Township and Range Lines	4 Pen
Section Lines	3 Pen
Corporation Lines	3 Pen
Railroad R/W	0 Pen
Highway R/W	1 Pen
Property Boundary Lines	1 Pen
Original Lot Lines	00 Pen
Water	00 Pen
Land Hooks	00 Pen
S/D Limit	00 Pen
Transmission Lines	00 Pen
State Name	2 Pen/200L Template
County Name	2 Pen/200L Template
Township and Range Number	1 Pen/140L Template
Section Number	1 Pen/140L Template
Corporation Name	1 Pen/140L Template
Railroad Name	00 Pen/80L Template Slant
Interstate Highway	00 Pen/140L Template
U.S. Highway	00 Pen/140L Template
State Highway	00 Pen/140L Template
County Highway	00 Pen/140L Template
Roads/Streets, and Names	1 Penn/120L Template
Alleys	00"/80L Template
Parcel Number	1"/140L Template
Original Lot Number	00"/120L Template Slant
Creeks, Streams Names	0"/120L Template Slant
Rivers, Lakes Names	1"/175L Template Slant
Deed Dimensions	00"/80L Template

Scaled Dimensions	00"/80L Template
Deed Acreage	0"/120L Template
Calculated Acreage	0"/120L Template
Church, Cemetery, School, Etc. Names	0"/100L Template
Transmission Lines	00"/80L Template
Adjacent Map Reference	0"/120L Template
Easement Line	00"
Map Number	2" 200L (Minimum)

For those symbol line weights and lettering sizes not specified above, the mapper will use the same line weights and lettering size as the original mapping in each county done under the original mapping contract. When a stream becomes a property line, the mapper will increase the pen to a #1 pen, but will retain the stream symbol.

#### **E. Ownership Index System**

To complete the working system of ownership indexing, the county will maintain two (2) sets of property index cards. One (1) set will be filed alphabetically and one (1) set will be filed geographically (by map and parcel number). Index cards will be maintained for each parcel and a new set of index cards will be prepared for each new parcel. A copy of the deed will be attached to the work index card that is filed geographically by map and parcel number. The cards will contain at least the following information:

- (1) Map number
- (2) Permanent parcel number
- (3) Owner's name and mailing address
- (4) Property address
- (5) Property description (subdivision, block, lot, city, etc.)
- (6) Dimensions and/or acreage (both deed, calculated or scaled) where applicable.
- (7) Section, township and range number.
- (8) Acquisition reference (book, page and date)
- (9) Plat book and page for subdivided property
- (10) Any notes explaining the plotting of or the ownership if different from the vesting instrument or if a field edit is made, information from field edit.

The final ownership index card shall be designed in such a format that would allow the County to add taxing district name or number, property class, and valuation should it desire to do so. The format of the final ownership index card shall be subject to the approval of the County and the State Tax Commission prior to its use. The final ownership index system may be automated provided it meets the criteria as outlined above.

## **F. Updating Procedures**

The mapper will obtain copies of all vesting instruments, newly recorded subdivisions or resubdivisions of existing subdivisions, all local surveys, all new right-of-ways, acquisition plans and changes of right-of-ways for all federal, state, county and city roads and all new right-of-ways of transmission lines, etc. during the updating period of all maintenance activity.

### **(1) Ownership Maps**

#### **➤ Documents**

All vesting instruments, documents affecting owners or boundaries, new subdivisions, survey maps, etc. will be sorted by map number and marked as such. Each transfer will be logged on the Maintenance Mapping Register. At this time it will be given a change number. This change number can be used to control each transfer throughout the maintenance period. A Property Change Form (in duplicate should be made and the transfer attached to the mapper's copy. One copy of the Property Change Form will go to the appraiser. Then each transfer or new survey map will be compared with the present ownership map to check the accuracy and completeness of the original mapping. The "card change" procedure will follow this phase of the updating procedure.

#### **➤ Correction & Updating**

Splits, sell-offs and/or map corrections will be indicated on a paper copy of the ownership map. The copies of the ownership maps will be furnished by the county. Recolored pencil or ink is suggested for property line changes and dimensions. New parcel or map block numbers should be indicated in green-colored pencil or ink. This color difference on the paper print makes the drafting or inking on the originals much easier and more identifiable. The tax assessor or like county official will record any report or information which indicates an error in owner or owners, or an error in parcel boundaries, on a parcel error change form, for review and required corrections as necessary by

maintenance mapping contractor where applicable. Maps requiring corrections to the original mapping will be done in the same manner as splits or sell-offs.

➤ **Numbering**

Numbering of parcels will be done in accordance with the “Missouri Uniform Parcel Numbering System”. See section 5.7.4.

➤ **Aerial Photo**

Each split, sell-off, or map correction will always be checked against the aerial photo covering the area.

➤ **Field Edit**

In those instances when the property cannot be plotted from the vesting instrument, or conflicts and ambiguities exist, or the transfer is vague, not complete enough to be located, identified or mapped, or where the grantor’s name is not the same as currently mapped, the mapper will make a field edit. The field edit will be attached to the property changed forms. No field edit will be made by phone, except for questions concerning ownership. It is not intended that the mapper go beyond a field interview(s) in an endeavor to interpret ownership or boundary disputes. It is not the mapper’s responsibility to settle or make a legal determination as to the true or proper owner, but rather to attempt to understand and reflect on the assessor’s ownership map the ownership interests that are present.

➤ **Drafting**

Drafting changes on the original will be done in accordance with mapping standards. This will insure uniformity of all maps. At the end of each maintenance period, the name of the mapper and the date through which the maps are updated will be inked on each map.

➤ **Right-of-ways (ROW)**

The addition of new or changed right-of-ways for roads, railroads, utility lines, new streets, etc. will be shown on the ownership maps. The predominate dimensions of each ROW will be shown along with any name and/or highway number.

➤ **Subdivision**

New subdivisions or resubdivisions will be mapped with all contiguous unimproved lots, under a

single ownership, as a single parcel. As future transfers occur, parcels will be created for each contiguous ownership configuration. Parcel numbers will be assigned in a manner consistent with existing numbering and to facilitate field review and record keeping.

➤ **Landhooks**

Lots of any plat separated by a public thoroughfare are not considered to be contiguous. Lots so separated will be mapped and appraised separately regardless of common ownership. Landhooks are to be used in rural areas only where a parcel is split by a railroad or highway right-of-way to denote single ownership. The exception to this will be where parcels are split by interstate highways, lakes or reservoirs.

➤ **Contiguous Parcels**

Contiguously owned parcels in two or more sections shall be mapped as separate parcels. Only contiguously owned parcels in the same section will be mapped as one parcel. However, parcels with a land area of two acres or less in the rural area, not subject to further subdivision, or a lot in a subdivision extending into an adjoining map area, can be included in the map which has the largest land area or facing a street or road, by indicating beyond the intelligence line of the map, lines showing the remaining part of the parcels. Dimensions will be shown. The portion of the parcel extended across the intelligence line will be shown by solid lines. The section or intelligence line will be dashed thru the parcel. The map that carries the remaining portion of the parcel will be referenced in the margin area. The map that has the land area not assigned the parcel number will have a reference note to which map and block the land area is parceled. In summary, any land area will be shown by solid lines to show that it is considered and included in another map and the maps will be cross-referenced and all land area in every map must be accounted for.

➤ **Encroachments (Conflicts)**

In plotting property where a field edit and deed have determined an encroachment actually exists, the area of encroachment will be visibly marked by the use of dashed lines on the map, and labeled as a "CONFLICT".

➤ **Supplemental Maps (Inserts)**

When it has been determined that an area needs to be enlarged (from 1" = 400' to 1" = 200' or 1" = 100') the area enlarged on the original ownership map will show the new map number for the land area enlarged. The map or maps created will then carry the map and uniform parcel numbers as

determined by the Missouri Uniform Map Numbering and Parcel Numbering System . The area enlarged and the parcel numbers will be deleted and the index card removed from the current file and placed in an inactive file. New property boundary lines will be created along with new index cards with all required information and new parcel numbers for the land area enlarged.

➤ **Combinations**

The combining of parcels or the eliminating of parcel numbers should be handled very carefully in order that all parcels have a number unique to themselves. The index cards of the deleted parcel should be pulled and placed in the inactive file.

➤ **Placement of Drafted Information**

1. Names of streets, or street numbers and roads, should be placed in the center of the travel path, where possible.
2. Original subdivision (S/D) lot numbers should be placed in the rear of the lots in a slanted position.
3. Original S/D block numbers should be centered in the block with the printing being dashed and inside a dashed circle.
4. Parcel numbers should be placed in the middle of the parcel on platted parcels and in the northeast corner on unplatted parcels.
5. Block numbers should be placed in the center of the parcel with quotation marks included, with blocking limits indicated where applicable.
6. Small block numbers and ticking will be placed at block limit breaks where applicable.
7. Dimensions should be near the center portion of a property line.
8. Acreage should be placed directly under the parcel number and if both deed and calculated acreage are utilized, the deed acreage (d) should be listed first with the calculated acreage (c) being listed below the deed acreage.
9. All highway symbols should straddle the travel path, where possible.
10. Government property, churches, schools and cemetery names should be placed nearer the middle of the parcels.
11. Insert information should reference information and where to be found in the center of the unmapped area.



➤ **Photo Number**

When a mapper has created an additional map, the flight line and the exposure number of the aerial photograph that covers that map should be inked in the legend area below the subsheet index indicator.

(2) **Property Index Cards**

➤ **Property Descriptions**

A property description is based on the description from the vesting instrument, is in an abbreviated form and eliminates information not essential to the plotting of the parcel. A property description does not require a verbatim copy of the vesting instrument description if the description is excessively long, but rather the description should describe the subject property as it found on the ownership map.

Land that can be described in the conventional manner, such as quarter-quarter section, half section, full section, etc. will be described this way.

The section, township and range will be shown. If the property is located within an urban area, the name of the city should be shown, where applicable.

The property description for subdivided property will be in the following manner: lot, block, subdivision, city or town, where applicable. There is no need to follow this description by a section, township and range, if the property is located within an urban area. If the subdivided property is located in the rural area, the description should be lot, block, subdivision, section, township and range. When a verbatim description in the vesting instrument cannot be used and a parcel must be described by metes and bounds, the following procedures should be utilized in writing the metes and bounds property description: The description should start with an existing photo-visible point on the ownership map, such as 1/4 1/4 section corner, an intersection of two (2) roads, an intersection of a road right-of-way and a section line etc. Once the point has been determined, then the distance and direction to a point of beginning (POB) of the parcel will be stated. The POB of the parcels will be used to describe the actual boundaries of the parcel. From the point of beginning the description continues around the boundaries of the parcel giving the direction and distances until the description closes back to the point of beginning. The deed dimensions and, if required, the scale dimensions or deed acreage and/or calculated acreage will be stated in the description. If the parcel is located

within an incorporated area, the name of the city, town or community should be stated unless a space for this is provided on the index card.

➤ **Ownership**

Full names of all parties in tenancy will be shown. Full interest of all owners will be determined by vesting instrument and/or field edit. If tenants own a fractional interest, such interest will be indicated by each name on the Property Index Cards. This also includes estate property or trust.

➤ **Property Address**

Where the property is located on a street, road or boulevard, the property address will list the house number, name or number of the road, street, or boulevard and city, town or community. If located in the rural area not having an address similar to that in the urban or suburban area above, show the following as an address:

1. Property adjoining Federal, State or County Highway, the name or number of the highway will be acceptable as an address. If the property is located on a creek, river, railroad or any other identifiable point, the property address will show such identifiable point.
2. Property not located on or adjacent to the above: property not located on road, street, highway, creek, river or other identifiable point, but can be identified by property located north, south, etc., of a highway, river, creek and railroad will show the address that the property lies north or south or so forth of such physical feature. The location point shown in the address should be located within the section in which the parcel is located.
3. Parcels which are split by the above will reflect north and south, etc., of highway 164 and/or creeks, railroads, rivers and streets.
4. Parcels of land less than 1/4 1/4 section which cannot be given a property address in the above manner should show in the property address section of the Property Index Card the 1/4 1/4 section in which the parcel is located.

**(3)     Storage****➤   Inactive File**

Property index cards and prints of ownership maps that have been changed due to splits, sell-offs or corrections of errors will be marked   inactive   . They will be filed by the mapper in storage provided by the county in a manner which allows for ready reference.

**➤   Storage of Mapping Material**

All materials used in the updating and the maintenance of ownership maps; such as, Property Change Forms with deeds, subdivision plats and surveys, ROW plans, Field Edit Forms, etc., will be filed by the mapper in a manner which allows for ready reference.

## 5.8 MARKET STUDIES

There are four basic market studies conducted in the assessor's office. Each study has a distinct objective, although they all rely on the same basic information. The key to successful market analysis is the collection, verification and use of good sale data.

How do you verify that a sale is a good "arms-length" transaction? By learning all you can about the conditions and situations involved in a particular sale. Consider, does the sale meet the key elements of the market value definition? *Were both the buyer and seller willing, and neither at an unfair advantage over the other or under pressure to act? Was the subject property exposed to the market for a reasonable amount of time? Were both the buyer and seller knowledgeable of the property, its use and its potential uses?* If so, then the sale can be considered a good sale and is suitable for use in the market studies.

By knowing the parties involved and verifying the terms, conditions and particulars of a given sale the appraiser is prepared to analyze the sale and to draw from it reasonable conclusions about the market. See *Exhibit 5.31* for samples of the basic market study forms.

## TECHNICAL ASSISTANCE

## EXHIBIT 5.31

Superior County, Missouri Sales Ratio Analysis													
Select Neighborhood -- 17				Order By Ratio		Improved parcels only							
Appraisal Date January, 2007				Sale Years 2004 - 2006		TAF 0.00250 Per Month							
Jniform Parcel Number	Rec Num	Sale Price	Sale Date	Trended Sale Price	Total Apprsd Value	Sale Ratio	Vacant or Imprvd	Depr. %	Base Area	Year Built	Nbhd	Style	Qlty
22-0.4-19-02-04-090.000	330	127,500	9/2005	132,600	99,822	0.753	Imp	80	1,127	1969	17	SptLvl	D+
22-0.4-19-02-11-080.000	327	125,000	4/2005	131,563	99,495	0.756	Imp	75	1,450	1965	17	Ranch	D+
22-0.4-19-02-05-020.480	357	205,000	9/2005	213,200	163,481	0.767	Imp	98	1,616	2002	17	1-Sty	D+
22-0.9-30-04-01-040.310	350	164,900	5/2005	173,145	139,490	0.806	Imp	90	1,680	1998	17	Ranch	D
22-0.4-19-04-06-010.000	355	195,000	5/2005	204,750	172,389	0.842	Imp	90	1,051	1986	17	2-Sty	C-
22-0.4-19-02-03-080.000	281	86,000	1/2006	88,580	76,265	0.861	Imp	75	1,040	1969	17	1-Sty	D
22-0.4-19-02-11-030.000	336	135,000	6/2006	137,363	119,049	0.867	Imp	85	1,248	1981	17	1-1/2	D
22-0.4-19-02-18-010.000	352	175,000	4/2005	184,188	160,745	0.873	Imp	98	1,630	2002	17	1-Sty	D
22-0.4-19-02-11-008.000	117	100,000	1/2004	109,000	99,495	0.913	Imp	75	1,450	1965	17	Ranch	D+
22-0.4-19-02-06-090.000	328	125,000	4/2006	127,813	117,116	0.916	Imp	80	728	1972	17	SptLvl	D+
22-0.4-19-01-29-010.000	125	72,500	4/2004	78,481	72,170	0.920	Imp	70	1,080	1960	17	1-Sty	D
22-0.4-19-02-05-020.120	347	156,000	4/2005	164,190	151,538	0.923	Imp	98	1,860	1999	17	SptLvl	D
22-0.4-19-02-03-002.000	118	165,000	1/2004	179,850	167,015	0.929	Imp	85	1,908	1969	17	Ranch	C-
22-0.9-30-04-01-040.290	346	155,000	6/2005	162,363	150,991	0.930	Imp	98	1,680	1998	17	Ranch	D
22-0.4-19-01-40-011.001	196	141,500	8/2005	147,514	139,120	0.943	Imp	90	1,560	1984	17	Ranch	D+
22-0.4-19-01-40-110.010	360	141,500	8/2005	147,514	139,120	0.943	Imp	90	1,560	1984	17	Ranch	D+
22-0.3-07-03-01-010.060	353	176,000	6/2006	179,080	170,934	0.955	Imp	98	2,187	2003	17	1-Sty	D
22-0.4-19-02-04-010.000	143	120,000	7/2004	129,000	123,358	0.956	Imp	75	1,688	1970	17	Ranch	D+
22-0.4-19-03-02-140.000	348	160,000	6/2006	162,800	157,579	0.968	Imp	90	1,691	1987	17	SptLvl	D+
22-0.4-19-02-18-020.000	356	196,500	5/2006	200,430	196,161	0.979	Imp	98	1,613	2002	17	1-1/2	D
22-0.4-19-03-03-130.000	363	167,000	6/2006	169,923	166,369	0.979	Imp	75	1,840	1970	17	1-Sty	C-
22-0.4-19-03-02-015.000	153	160,000	9/2004	171,200	173,541	1.014	Imp	80	1,840	1974	17	Ranch	D+
22-0.4-19-03-04-050.000	195	146,400	10/200	151,890	154,929	1.020	Imp	80	1,594	1974	17	Ranch	D+
22-0.9-30-02-02-017.000	359	287,000	3/2006	294,175	301,920	1.026	Imp	98	2,032	2005	17	1-1/2	C
22-0.4-19-03-03-050.000	364	164,000	5/2006	167,280	173,437	1.037	Imp	75	1,957	1969	17	Ranch	C-
22-0.4-19-03-04-050.000	341	140,000	10/200	145,250	154,929	1.067	Imp	80	1,594	1974	17	Ranch	C-
22-0.4-19-04-03-020.000	188	161,500	7/2005	168,768	195,986	1.161	Imp	80	1,368	1979	17	1-1/2	D+
22-0.4-19-04-03-020.000	349	161,500	7/2005	168,768	195,986	1.161	Imp	80	1,368	1979	17	1-1/2	D+
22-0.4-19-02-04-020.000	314	116,000	5/2006	118,320	141,767	1.198	Imp	85	1,416	1980	17	1-Sty	D+
Number of Sales				29		Weighted Mean		0.95					
Median Ratio				0.94		Mean Ratio		0.95					
Coefficient of Dispersion				8.81		Price Related Differential		1.00					

## EXHIBIT 5.31 page 2 of 5

**Superior County, Missouri  
Land Value Analysis**

Abstraction Method

FRFT land; Neighborhood 17; All Prices; All sizes; All UPNs; Sale years 2004-2006

Uniform Parcel Number	Rec. Num.	Sale Price	Sale Date	Trnded Sale Price	Frontg	Depth	Impr. Value	Ind. Land Value	Factors Dpth	Infl	Eff. Units	Ind. Unit Value	Crnt Unit Price	Nbhd
22-0.3-07-03-01-010.060	353	176000	6/2006	179,080	75	135	152184	26896	1.00	1.00	75	359	250	17
22-0.4-19-01-29-010.000	125	72500	4/2004	78,481	66	108	56825	21656	0.93	1.00	61	353	250	17
22-0.4-19-01-40-011.001	196	141500	8/2005	147,514	83	141	109097	38416	1.01	1.00	120	320	250	17
					37	126			0.98	1.00				
22-0.4-19-01-40-110.010	360	141500	8/2005	147,514	83	140	109097	38416	1.01	1.00	120	320	250	17
					37	126			0.98	1.00				
22-0.4-19-02-03-002.000	118	165000	1/2004	179,850	144	132	134939	44911	0.99	0.90	128	350	250	17
22-0.4-19-02-03-080.000	281	36000	1/2006	88,580	82	122	50281	38299	0.96	0.65	104	368	250	17
					82	131			0.99	0.65				
22-0.4-19-02-04-010.000	143	120000	7/2004	129,000	120	105	98788	30212	0.91	0.90	98	307	250	17
22-0.4-19-02-04-020.000	314	116000	5/2006	118,320	75	120	123767	-5447	0.96	1.00	72	-76	250	17
22-0.4-19-02-04-090.000	330	127500	9/2005	132,600	75	120	81822	50778	0.96	1.00	72	705	250	17
22-0.4-19-02-05-020.120	347	156000	4/2005	164,190	93	102	130380	33810	0.91	1.00	85	400	250	17
22-0.4-19-02-05-020.480	357	205000	9/2005	213,200	99	102	138731	74469	1.00	1.00	99	752	250	17
22-0.4-19-02-06-090.000	328	125000	4/2006	127,813	79	128	96971	30841	1.02	1.00	81	383	250	17
22-0.4-19-02-11-008.000	117	100000	1/2004	109,000	75	81	84495	24505	0.80	1.00	60	408	250	17
22-0.4-19-02-11-030.000	336	135000	6/2006	137,363	139	122	89025	48337	0.96	0.90	120	402	250	17
22-0.4-19-02-11-080.000	327	125000	4/2005	131,563	75	118	84495	47067	0.80	1.00	60	784	250	17
22-0.4-19-02-18-010.000	352	175000	4/2005	184,188	200	96	115745	68442	0.90	1.00	180	380	250	17
22-0.4-19-02-18-020.000	356	196500	5/2006	200,430	200	111	149661	50769	0.93	1.00	186	273	250	17
22-0.4-19-03-02-015.000	153	160000	9/2004	171,200	99	165	147553	23647	1.05	1.00	104	227	250	17
22-0.4-19-03-02-140.000	348	160000	6/2006	162,800	94	141	133844	28956	1.01	1.00	95	305	250	17
22-0.4-19-03-03-050.000	364	164000	5/2006	167,280	123	134	143661	23619	1.00	0.85	119	198	250	17
					42	130			0.99	0.35				
22-0.4-19-03-03-130.000	363	167000	6/2006	169,923	96	147	141889	28033	1.02	1.00	98	286	250	17
22-0.4-19-03-04-050.000	195	146400	10/2005	151,890	90	135	132429	19461	1.00	1.00	90	216	250	17
22-0.4-19-03-04-050.000	341	140000	10/2005	145,250	90	135	132429	12821	1.00	1.00	90	142	250	17
22-0.4-19-04-03-020.000	188	161500	7/2005	168,768	134	131	162821	5946	0.99	1.00	133	45	250	17
22-0.4-19-04-03-020.000	349	161500	7/2005	168,768	134	131	162821	5946	0.99	1.00	133	45	250	17
22-0.4-19-04-06-010.000	355	195000	5/2005	204,750	111	120	145749	59001	0.96	1.00	107	554	250	17
22-0.9-30-02-02-017.000	359	287000	3/2006	294,175	96	311	274258	19917	1.02	1.13	111	180	250	17
22-0.9-30-04-01-040.290	346	155000	6/2005	162,363	130	90	123366	38996	0.85	1.00	110	353	250	17
22-0.9-30-04-01-040.310	350	154900	5/2005	173,145	130	90	111865	61280	0.85	1.00	110	555	250	17

## EXHIBIT 5.31 page 3 of 5

Superior County, Missouri Land Value Analysis Land / Sale Price Method, Using 20% FRFT land; Neighborhood 17; All Prices; All sizes; All UPNs; Sale years 2004-2006																
Uniform Parcel Number	Rec. Num.	Sale Price	Sale Date	Trndd Sale Price	Frontg	Dpth	Impr. Value	Ind. Value	Factors Dpth	Infl	Eff. Units	Ind. Unit Value	Crrnt Unit Price	Nbhd		
22-0.3-07-03-01-010.060	353	176000	6/2006	179080	75	135	152184	35816	1.00	1.00	75	478	250	17		
22-0.4-19-01-29-010.000	125	72500	4/2004	78481	66	108	56825	15696	0.93	1.00	61	256	250	17		
22-0.4-19-01-40-011.001	196	141500	8/2005	147514	83	141	109097	29502	1.01	1.00	120	246	250	17		
22-0.4-19-01-40-110.010	360	141500	8/2005	147514	37	126	109097	29502	0.98	1.00	120	246	250	17		
22-0.4-19-02-03-002.000	118	165000	1/2004	179850	83	140	134939	35970	1.01	1.00	128	280	250	17		
22-0.4-19-02-03-080.000	281	86000	1/2006	88580	144	132	50281	17716	0.99	0.90	104	170	250	17		
22-0.4-19-02-04-010.000	143	120000	7/2004	129000	82	131	98788	25800	0.96	0.65	98	263	250	17		
22-0.4-19-02-04-020.000	314	116000	5/2006	118320	120	105	123767	23664	0.91	0.90	72	329	250	17		
22-0.4-19-02-04-090.000	330	127500	9/2005	132600	75	120	81822	26520	0.96	1.00	72	368	250	17		
22-0.4-19-02-05-020.120	347	156000	4/2005	164190	93	102	130380	32838	0.91	1.00	85	388	250	17		
22-0.4-19-02-05-020.480	357	205000	9/2005	213200	99	102	138731	42640	1.00	1.00	99	431	250	17		
22-0.4-19-02-06-090.000	328	125000	4/2006	127813	79	128	96971	25562	1.02	1.00	81	317	250	17		
22-0.4-19-02-11-008.000	117	100000	1/2004	109000	75	81	84495	21800	0.80	1.00	60	363	250	17		
22-0.4-19-02-11-030.000	336	135000	6/2006	137363	139	122	89025	27472	0.96	0.90	120	229	250	17		
22-0.4-19-02-11-080.000	327	125000	4/2005	131563	75	118	84495	26312	0.80	1.00	60	439	250	17		
22-0.4-19-02-18-010.000	352	175000	4/2005	184188	200	96	115745	36837	0.90	1.00	180	205	250	17		
22-0.4-19-02-18-020.000	356	196500	5/2006	200430	200	111	149661	40086	0.93	1.00	186	216	250	17		
22-0.4-19-03-02-015.000	153	160000	9/2004	171200	99	165	147553	34240	1.05	1.00	104	329	250	17		
22-0.4-19-03-02-140.000	348	160000	6/2006	162800	94	141	133844	32560	1.01	1.00	95	343	250	17		
22-0.4-19-03-03-050.000	364	164000	5/2006	167280	123	134	143661	33456	1.00	0.85	119	281	250	17		
22-0.4-19-03-03-130.000	363	167000	6/2006	169923	42	130	141889	33984	0.99	0.35	98	347	250	17		
22-0.4-19-03-04-050.000	195	146400	10/2005	151890	96	147	132429	30378	1.02	1.00	90	338	250	17		
22-0.4-19-03-04-050.000	341	140000	10/2005	145250	90	135	132429	29050	1.00	1.00	90	323	250	17		
22-0.4-19-04-03-020.000	188	161500	7/2005	168768	134	131	162821	33753	0.99	1.00	133	254	250	17		
22-0.4-19-04-03-020.000	349	161500	7/2005	168768	134	131	162821	33753	0.99	1.00	133	254	250	17		
22-0.4-19-04-06-010.000	355	195000	5/2005	204750	111	120	145749	40950	0.96	1.00	107	384	250	17		
22-0.9-30-02-02-017.000	359	287000	3/2006	294175	96	311	274258	58835	1.02	1.13	111	532	250	17		
22-0.9-30-04-01-040.290	346	155000	6/2005	162363	130	90	123366	32472	0.85	1.00	110	294	250	17		
22-0.9-30-04-01-040.310	350	164900	5/2005	173145	130	90	111865	34629	0.85	1.00	110	313	250	17		

CHAPTER:

# TECHNICAL ASSISTANCE

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## EXHIBIT 5.31 page 4 of 5

Superior County, Missouri Index Calculations												
For Years 2003 2004 2005; Appraisal Dt Jan.2007; Trend 0.00000; Construction Quality D-...C												
Parcel Number	Rec Num	Sale Price	Sale Date	Trnd Sale Price	Land Val.	Ind. Bldg Value	Man'l Cost	Ind. Index	Year Blt	Cnst Qlty	Nbhd	
22-0.4-17-02-07-070.010	316	119500	3/2006	119500	15665	103835	43497	2.39	2005	D	15	
22-0.3-07-03-01-010.110	345	153500	3/2005	153500	17625	135875	56568	2.40	2005	D	15	
22-0.4-17-02-01-100.400	351	165000	6/2005	165000	23970	141030	43476	3.24	2005	D	15	
22-0.9-30-02-02-017.000	359	287000	3/2006	287000	27662	259338	107552	2.41	2005	C	17	
22-0.3-07-03-01-001.021	146	152500	8/2004	152500	18976	133524	53840	2.48	2004	D	15	
22-0.3-07-03-01-001.009	168	137000	2/2005	137000	11985	125015	45074	2.77	2004	D	15	
22-0.3-07-03-01-010.270	311	114500	3/2005	114500	15872	98628	34565	2.85	2004	D	18	
22-0.3-07-03-01-010.090	339	137000	2/2005	137000	11985	125015	45074	2.77	2004	D	15	
22-0.3-07-03-01-005.000	109	122000	8/2003	122000	18800	103200	50604	2.04	2003	D	15	
22-0.4-20-01-36-036.000	134	134000	3/2004	134000	19417	114583	46038	2.49	2003	D	18	
22-0.3-07-03-01-005.030	145	134000	8/2004	134000	14805	119195	48359	2.46	2003	D	15	
22-0.3-07-03-01-010.060	353	176000	6/2006	176000	18750	157250	59679	2.63	2003	D	17	
29-0.2-04-03-10-030.010	388	55900	6/2005	55900	2262	53638	22413	2.39	2003	D	13	



## EXHIBIT 5.31 page 5 of 5

Superior County, Missouri  
Depreciation Study  
Appraisal Yr 2007; Index 2.80; Neighborhood 17; Sale years 2004-2007; Construction Qualities F to A

Uniform Parcel Number	Rec Num	Sale Price	Sale Date	Trended Sale Price	Land Value	Indicated Building Value	RCN	Ind. Cond.	Current Cnd	Obs.	Chart Cnd	Yr Bld	Qty	Nbhd
22-0.9-30-02-02-017.000	359	287000	3/2006	294175	27662	266513	307,292	0.867	0.98	1.00	0.98	2005	C	17
22-0.3-07-03-01-010.060	353	176000	6/2006	179080	18750	160330	170,514	0.940	0.98	1.00	0.94	2003	D	17
22-0.4-19-02-18-010.000	352	175000	4/2005	184188	45000	139187	129,686	1.073	0.98	1.00	0.93	2002	D	17
22-0.4-19-02-18-020.000	356	196500	5/2006	200430	46500	153930	167,688	0.918	0.98	1.00	0.93	2002	D	17
22-0.4-19-02-05-020.480	357	205000	9/2005	213200	24750	188450	155,441	1.212	0.98	1.00	0.93	2002	D+	17
22-0.4-19-02-05-020.120	347	156000	4/2005	164190	21158	143032	145,673	0.982	0.98	1.00	0.89	1999	D	17
22-0.9-30-04-01-040.290	346	155000	6/2005	162363	27625	134737	138,226	0.975	0.98	1.00	0.88	1998	D	17
22-0.9-30-04-01-040.310	350	164900	5/2005	173145	27625	145520	136,480	1.066	0.90	1.00	0.88	1998	D	17
22-0.4-19-03-02-140.000	348	160000	6/2006	162800	23735	139065	162,869	0.854	0.90	1.00	0.76	1987	D+	17
22-0.4-19-04-06-010.000	355	195000	5/2005	204750	26640	178110	177,820	1.002	0.90	1.00	0.79	1986	C-	17
22-0.4-19-01-40-011.001	196	141500	8/2005	147514	30023	117490	133,104	0.883	0.90	1.00	0.71	1984	D+	17
22-0.4-19-01-40-110.010	360	141500	8/2005	147514	30023	117490	133,104	0.883	0.90	1.00	0.71	1984	D+	17
22-0.4-19-02-11-030.000	336	135000	6/2006	137363	30024	107338	115,004	0.933	0.85	1.00	0.66	1981	D	17
22-0.4-19-02-04-020.000	314	116000	5/2006	118320	18000	100320	159,884	0.627	0.85	1.00	0.64	1980	D+	17
22-0.4-19-04-03-020.000	188	161500	7/2005	168768	33165	135602	223,480	0.607	0.80	1.00	0.62	1979	D+	17
22-0.4-19-04-03-020.000	349	161500	7/2005	168768	33165	135602	223,480	0.607	0.80	1.00	0.62	1979	D+	17
22-0.4-19-03-04-050.000	341	140000	10/2005	145250	22500	122750	181,765	0.675	0.80	1.00	0.66	1974	C-	17
22-0.4-19-03-04-050.000	195	146400	10/2005	151890	22500	129390	181,765	0.712	0.80	1.00	0.58	1974	D+	17
22-0.4-19-02-06-090.000	328	125000	4/2006	127813	20145	107667	133,098	0.809	0.80	1.00	0.53	1972	D+	17
22-0.4-19-03-03-130.000	363	167000	6/2006	169923	24480	145442	207,732	0.700	0.75	1.00	0.60	1970	D+	17
22-0.4-19-02-04-010.000	143	120000	7/2004	129000	24570	104430	143,205	0.729	0.75	1.00	0.53	1970	D+	17
22-0.4-19-02-03-002.000	118	165000	1/2004	179850	32076	147774	172,608	0.856	0.85	1.00	0.60	1969	C-	17
22-0.4-19-03-03-050.000	364	164000	5/2006	167280	29776	137504	172,608	0.654	0.75	1.00	0.60	1969	C-	17
22-0.4-19-02-03-080.000	281	86000	1/2006	88580	25984	62596	72,981	0.858	0.75	1.00	0.53	1969	D	17
22-0.4-19-02-04-090.000	330	127500	9/2005	132600	18000	114600	111,838	1.025	0.80	1.00	0.53	1969	D+	17
22-0.4-19-02-11-008.000	117	100000	1/2004	109000	15000	94000	123,705	0.760	0.75	1.00	0.48	1965	D+	17
22-0.4-19-02-11-080.000	327	125000	4/2005	131563	15000	116562	123,705	0.942	0.75	1.00	0.48	1965	D+	17
22-0.4-19-01-29-010.000	125	72500	4/2004	78481	15345	63136	76,576	0.824	0.70	1.00	0.43	1960	D	17

## **1. Neighborhood Sales Ratio**

The neighborhood sale ratio study is the primary tool used to measure mass appraisal performance. A ratio study compares appraised value to sale price. The sale ratio is calculated by dividing the appraised value by the sale price. Sale ratios over 100% indicate that the appraised value is higher than the sale price; ratios under 100% indicate that the appraisal is under the sale price or low, relative to the market.

Sale data should be grouped by neighborhood. Neighborhoods may be any size and may be defined as a geographical area which exhibits homogeneous traits such as age, quality, size, lot size, proximity to services, economic influence or use. A single neighborhood does not necessarily have to be contiguous, although single non-contiguous neighborhoods need to be examined closely in order to avoid drawing conclusions which misrepresent the influence of location. One concern in neighborhood definition is designating neighborhoods that are too small in area, which may not provide sufficient number of sales from which to draw meaningful conclusions.

After the sale ratios are calculated, they may be analyzed to determine some key statistics. Useful statistics include the mean, median and weighted mean ratios. These ratios are measures of central tendency and they provide an insight as to the LEVEL of the appraisals. The mean ratio is simply the arithmetic mean, calculated by summing the ratios and dividing by the number of observations or sales. The median ratio is the midpoint, where half of the ratios are above and the other half are below. To find the median, array the sale ratios (place them in ascending or descending order) and count to the midpoint. If the array contains an even number of ratios, then find the center two ratios, add them together and divide by two. The third average ratio to consider is the weighted mean. The weighted mean is calculated by summing the appraised values and dividing by the sum of the sale prices.

In addition to measures of central tendency, attention should be given to the degree of UNIFORMITY. Uniformity tells how consistent or uniform the appraisals are relative to their sale prices. The coefficient of dispersion (COD) is the primary statistic used in mass appraisal to measure the degree of uniformity or quality of the appraisal program. To calculate the COD, complete the following steps:

- (1) find the absolute deviation from the median for each sale ratio. The difference between the sale

ratio and the median (ignoring the plus or minus sign) is the absolute deviation.

(2) sum the absolute deviations and divide by the number of ratios. This result is the average absolute deviation.

(3) divide the average absolute deviation by the median and multiply by 100. The result is the coefficient of dispersion expressed as a percentage.

Ratio study performance standards published by the International Association of Assessing Officers (IAAO) include the following:

Appraisal level: within 10% of the statutory level or between 90% and 110%.

Appraisal uniformity: single-family residences, generally 15% or less.

Newer homogeneous areas: 10% or less.

Another useful statistic is the Price Related Differential (PRD). The price-related differential measures assessment regressivity or progressivity, and is calculated by dividing the mean by the weighted mean. Appraisals are considered *regressive*, PRD greater than 1.03, if high-value properties are under-appraised, and *progressive*, PRD under 0.97, if high-value properties are over-appraised.

Both regressive and progressive PRD's may be caused by misclassifications or systematic problems in appraisal schedules or techniques. Although the PRD may be an indicator of appraisal bias, it is not proof since sampling size can influence results or random sampling error may occur.

See *Exhibit 5.32* for a simple demonstration of the basic statistics described.

## **2. Land Analysis**

Land analysis is conducted to determine the proper land unit rate. The unit rate is expressed in terms of a unit of comparison and may be dollars per front foot, per square foot, or per acre. Ideally, the land unit rate is based on an analysis of vacant or unimproved land sales. Typically, however, the analysis will include improved sales which must be adjusted to account for the improvement value.

After the indicated unit prices are calculated, the appraiser will group the land value indications together for comparable areas, array the indicated land unit rates and determine the base land unit rate. In addition the appraiser should examine the indicated land unit rates for variations and

determine the cause or reason. Differences in the indicated land unit rates may become the basis for adjustments. For example, parcels that suffer from extreme topography or benefit from an excellent view may yield indicated land unit rates far worse or much better than the typical in a given area. By comparing the extreme rate to the typical rate, a percentage adjustment may be determined which accounts for the difference. For example, if the typical indicated rate is \$100 per front foot, and a sale parcel with poor topography sells for \$80 a front foot, the appraiser might conclude that poor topography deserves an adjustment of \$20 per front foot ( $\$100 - \$80$ ) or a minus twenty percent (-20%). Note, in many applications the adjustment may be expressed as a factor, i.e. 80%.

### **3. Depreciation Study**

In the depreciation study, sales are analyzed to determine, directly from the market, the amount of accrued depreciation or the indicated condition of a sale parcel. The indicated condition, expressed as a percent good, is dependent on two key items. First, the land value abstracted from the sale price must be reasonably current or the resulting indicated building value will be mis-stated.

Second, the estimate of the replacement cost new (RCN) must be close to current cost or the indicated condition will be over-stated. For example, if a property sold for \$100,000 and the land value is estimated at \$10,000 when the land value is actually \$20,000, then the indicated building value appears to be \$90,000 when it should only be \$80,000. In addition, if the true RCN is \$125,000 but the study uses an RCN of \$100,000 then the resulting indicated condition appears to be 90% ( $90,000 / 100,000$ ) not the true 64% ( $80,000 / 125,000$ ).

The depreciation study provides an indication of net condition and caution must be exercised in applying the results. Net condition reflects not only physical condition, but also the influences of external obsolescence as well as any functional obsolescence that might be present in the subject improvement.

### **4. Index Study**

An index study is performed to determine a factor (index) which will update costs from an appraisal manual to current construction costs within a county.

Data used in the index study should consist of sales new construction or cost information from actual

turn-key, contract built homes, including labor, profit, materials, and any other pertinent costs or fees associated with the construction. Homes built using owner labor are not proper subjects for this study, as construction costs (labor costs) typically are understated and quality are usually influenced.

Homes should be of “average” quality for the year built, which may or may not be the “typical” home built in a particular county. Sales or construction costs from the past year up to the past three years may be used. By using data up to three years old, the appraiser may be able to observe market changes or trends. Depending on quantity and quality of the sale or construction cost data, emphasis may be placed on the results from the current year, past two or all three years samples.

**EXHIBIT 5.32**  
**NEIGHBORHOOD SALES RATIO**

<b>Sale Number</b>	<b>Appraised Value</b>	<b>Sale Price</b>	<b>Ratio</b>	<b>Absolute Deviation</b>
-----				
8	\$ 82,000	\$ 118,000	0.70	0.19
4	90,000	120,000	0.75	0.14
7	98,750	125,000	0.79	0.10
2	92,400	105,000	0.88	0.01
6	82,800	92,000	0.90	0.01
3	95,000	100,000	0.95	0.06
5	111,550	115,000	0.97	0.08
1	86,700	85,000	1.02	0.13
<b>Totals:</b>	<b>739,800</b>	<b>860,000</b>	<b>6.96</b>	<b>0.72</b>

**Mean Ratio** 0.87

**Median Ratio** 0.89

**Weighted Mean Ratio** 0.86

**Coefficient of Dispersion**  $(0.72/8) = 0.09$

$(0.09/0.89) \times 100 = 10.11\%$

**Price-Related Differential**  $0.87 / 0.86 = 1.01$



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## 6.0 FUNDAMENTAL APPRAISAL CONCEPTS

The first problem encountered in the valuation of property for an assessment roll is achieving a uniform understanding of the basic concept of value on the part of the assessors, appraisers, and boards of equalization. The term "value" is the subject of more writing and discussion than any other economic term. There are numerous qualifying definitions relating to the particular concept involved. Understanding the value concept as it applies to taxable property will not solve the appraisal problem, but it will indicate the nature of the data to be collected and analyzed in order to arrive at a solution.

In Missouri, fractional assessments, a percentage of "true value in money", are the standards in accordance with Section 137.115 RSMo. "True value in money is defined as the price that the subject property would bring when offered for sale by one willing but not obligated to sell it and bought by one willing or desirous to purchase but not compelled to do so. *Rinehart v. Bateman*, 363 S.W.3d 357, 365 (Mo. App. W.D. 2012); *Cohen v. Bushmeyer*, 251 S.W.3d 345, 348 (Mo. App. E.D. 2008); *Greene County v. Hermel, Inc.*, 511 S.W.2d 762, 771 (Mo. 1974). True value in money is defined in terms of value in exchange and not in terms of value in use. *Stephen & Stephen Properties, Inc. v. State Tax Commission*, 499 S.W.2d 798, 801-803 (Mo. 1973). In sum, true value in money is the fair market value of the subject property on the valuation date. *Hermel, Inc.*, 564 S.W.2d at 897.

"'True value' is never an absolute figure, but is merely an estimate of the fair market value on the valuation date." *Drury Chesterfield, Inc., v. Muehlheausler*, 347 S.W.3d 107, 112 (Mo. App. E.D. 2011), citing *St. Joe Minerals Corp. v. State Tax Comm'n of Mo.*, 854 S.W.2d 526, 529 (Mo. App. E.D. 1993). "Fair market value typically is defined as the price which the property would bring when offered for sale by a willing seller who is not obligated to sell, and purchased by a willing buyer who is not compelled to buy." *Drury Chesterfield, Inc.*, 347 S.W.3d at 112 (quotation omitted).

Market value, is defined by the Appraisal Institute as being "the most probable price, as of a specified date, in cash, or in terms equivalent to cash, or in other precisely revealed terms, for which the specified property rights should sell after reasonable exposure in a competitive market under all conditions requisite to a fair sale, with the buyer and seller each acting prudently, knowledgeably, and for self-interest, and assuming that neither is under undue duress".<sup>1</sup>

For the purpose of establishing equalization in real property taxation, it is generally agreed that the basis for valuation is an approximation of market value arrived at through the application of the uniform rules and procedures of an appraisal. This manual encompasses the concept that an appraisal for assessment purposes is intended to reflect the market value of a fee simple ownership in real property. The term **Market Value** is held here to be synonymous with "**Fair Market Value**" and

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<sup>1</sup> "The Appraisal of Real Estate", 14th Edition, Published by the Appraisal Institute



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**“True Value in Money”**, but regardless of the terminology involved, the concept infers that the appraised value will reflect the price which the property will bring if it were voluntarily exposed for sale by an informed seller and purchased voluntarily by an informed buyer, each acting sensibly and without undue pressure.

An appraisal is a statement of opinion concerning the value of real property as of a specific point in time. It does not produce answers of an exact nature; rather, it is an estimate developed by one trained in the social science of appraising and is based on an examination of market factors, conditions, and trends. Thus, the validity or accuracy of the appraisal depends not only upon the availability of pertinent data, but also the competency and the integrity of the appraiser and the skill with which the data is processed into an indication of value. The fundamental purpose of any appraisal is to estimate value; consequently, an understanding of the basic concepts of value and the factors that affect it is essential.

#### **1. The Nature of Value**

There have been numerous definitions of value; some are relatively simple while others are complex. However, all of these definitions have evolved from two basic theories. The Subjective Value Theory affirms that value is in the mind of a person and is determined by how much he or she will pay or give in exchange for possession of a commodity. The Objective Value Theory holds that value is inherent in the object itself and is determined by the cost of producing the object. For the most part, the concepts of value as they apply to real estate are subjective in nature.

In the valuation of real estate it is generally considered that four factors must be present for a property to have value. They are utility, scarcity, desire, and effective purchasing power.

Utility not only equates the usefulness of the object (property), but is also a measure of its ability to arouse the buyer for possession and to satisfy the wants, needs or desires of a purchaser. Scarcity must also be present for value to exist. Scarcity is the shortage in the amount of a commodity available in a stated area for a specific use. Thus, utility and scarcity are the prime requisites of value and both must be present before value can exist. However, utility and scarcity alone do not create value. There must be a desire on the part of an individual to possess the object, and he or she must have effective purchasing power. Effective purchasing power is the financial ability to participate in a market transaction through which one gains control or possession of the property. Thus, value is the relationship between a thing desired and a potential purchaser. This relationship is generally expressed in terms of money, which is the common denominator by which value is measured.

The one point common to all definitions of market value is the presumption of a sale or exchange of the property. If the property is of the type commonly bought and sold in the market, then the subjective





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concept of value prevails and weight is given to value indicators derived from the market. Thus, value in exchange is the basis of estimating market value. However, if a property is of a highly special design or use and is of the type not commonly bought or sold in the market, then the objective concept of value prevails and other methods of estimating value must be formulated. Under a situation of this nature, the property is useful to the present owner and is of a functional design intended for a particular use. However, it may have little, if any, utility, and thus little value in an alternate use. Consequently, the property is said to be a limited-market or special-purpose property and have value in use as opposed to value in exchange. Use value is "the value a specific property has for a specific use".<sup>2</sup> Use value or value in use does not have as its basis highest and best use, nor the most likely price brought by the property if sold. The most typical utilization of value in use is where legislation mandates an agricultural use value for farmland. In no case should value in use be confused with market value, and where value in use is determined, it should be clearly stated.

Confusion often exists in the use of the terms cost, price, and value. They are sometimes used interchangeably but do not necessarily mean the same thing. Cost is a monetary measure of past sacrifices of the factors of production necessary to create an object. It is also used to denote the expenditure required to construct a new property or purchase an existing property. Price reflects the amount of money asked and/or paid for a particular property. It may or may not equal value, depending on the circumstances surrounding the sale and the relative knowledge of the parties involved. The assessor can determine market value by analyzing market prices reflected by sales of property similar to the subject property which is under appraisal.

## **2. The Property Rights to be Appraised**

Real property is a physical asset. Because of its immobility, it cannot be physically transferred from one owner to another. As a result, real estate ownership is actually an ownership of rights in realty. Although other interests are sometimes valued, ad valorem valuation typically involves "fee simple" ownership rights. The definition of fee simple is "Absolute ownership unencumbered by any other interest or estate, subject only to the limitations imposed by governmental powers of taxation, eminent domain, police power and escheat."<sup>3</sup>

### **A. Property Taxation**

This is the most basic limitation. Part of the cost of administering local government and its entities is funded by the property tax. Therefore, legal remedies are provided in the event of nonpayment of taxes.

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<sup>2</sup> "The Appraisal of Real Estate", 14th Edition, Published by the Appraisal Institute

<sup>3</sup> "The Appraisal of Real Estate", 12th Edition, Published by the Appraisal Institute



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#### **B. Eminent Domain**

Public and some private entities may exercise the right of eminent domain to acquire private property for public use. However just compensation must be paid for properties acquired by the condemnation process.

#### **C. Police Power**

Government reserves the right to impose limitations regulating the use of property in the interest of public health, safety, morals, and for the general public welfare. Building codes, zoning, property subdivision ordinances and restrictions of development are examples of police power.

#### **D. Escheat**

This limitation is minor and it applies only when an owner dies and leaves no heirs or will. Ownership of the property then reverts back to the state.

In addition to governmental restrictions on property, legal private agreements may also impose restrictions, which could limit the use or manner of development, or even the manner in which the ownership can be conveyed. These are called deed restrictions, and a purchaser of a property so encumbered may be obligated to use the property subject to such restrictions. Examples of private restrictions include easements, right-of-ways and party-wall agreements. Thus, some of the rights may have been severed from the property by a sale, lease or gift to other parties before a property is acquired.

Generally, the value of the complete fee simple rights in real property is assessed to the owner of record. This practice is a great administrative convenience; and while theoretical justification exists for the position that only those rights actually possessed by the owner of record should be assessed and that other partial interests should be assessed to those possessing them, it is not always feasible in a mass appraisal program to define all interests in a property for separate assessment. In effect, property rights are appraised as a unit and any division of tax responsibility is to be made between the owners of the various interests in the parcel.

### **3. Special Characteristics of Real Property**

The general analysis of value that has been made applies to all economic goods. Real property valuation is simply an application of general economic principles to a specific type of goods; however some special characteristics of real estate create different problems in the application of general economic principles.



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#### **A. Immobility**

Real estate generally cannot be divorced from its location. This is more nearly true of real estate than any other commodity. The value of the property is therefore closely related to the economic future of the area or neighborhood in which it is located. In addition, use of the property is dependent on the availability of external support services (roads, utilities, etc.) that also influence value.

#### **B. Durability**

The durability of real estate is well known, but its significance is not always considered. Structures usually have a limited life expectancy but land will exist in perpetuity. Real estate yields its services over a long period of time. The longevity of real estate creates serious problems for the urban land developer. Should he or she plan for an improved property that will satisfy current demand or estimated demand at some time in the future? The appraiser in turn must estimate a remaining useful/economic life of an existing improvement and its most probable use during that life.

#### **C. Nonstandard Commodity**

Each parcel of real property is unique. In varying degrees, each parcel is different from all others and comparison between properties can be extremely difficult. Because of this differentiation every appraisal problem is different and the appraiser's role is to find comparable properties in the marketplace whose characteristics are the most similar to those of the subject.

### **4. Basic Principles of Value**

Value of property is created and maintained through the various actions of buyers and sellers in the marketplace. Therefore to estimate the value of property, it is necessary to have an understanding of the basic economic principles that are generally accepted as underlying to all real estate transactions. These principles influence, in varying degrees, the value that one property will have in relation to another.

#### **A. Anticipation**

The principle of anticipation is defined as, "the perception that value is created by the expectation of benefits to be derived in the future".<sup>4</sup> The future, not the past, is important in deriving opinions of value. The primary value of past experience arises from its significance for the estimation of possible future trends and conditions. A buyer of income property invests in anticipation of future benefits to

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<sup>4</sup> "The Appraisal of Real Estate", 12th Edition, Published by the Appraisal Institute



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be achieved through possession, operation or in the form of capital gain. Examination of a property's income experience may reveal factors, favorable or unfavorable, that have enabled this property to produce a net income. The assembled data is then analyzed and appropriate factors are weighed in order to form an opinion concerning whether the net income stream may be expected, under typical management and business conditions, to continue, to decline, or to increase. "The value of owner-occupied residential property is based primarily on the expected future advantages, amenities, and pleasures of ownership and occupancy."<sup>5</sup>

Value may be defined as the present worth of the rights to sell all prospective future benefits, tangible and intangible, accruing to ownership of real estate. In most cases the quantity, quality, and durability of future benefits may be estimated in the light of past experiences as disclosed by examining the operations of the property being appraised and comparable properties.

### **B. Substitution**

"The principle of substitution states that when several similar or commensurate commodities, goods, or services are available, the one with the lower price attracts the greatest demand and widest distribution."<sup>6</sup> The importance in application of this principle can be found in many segments of the economy. In real estate, for example, if two apartments offer approximately the same advantages, the prospective tenant will select the one with the lowest rent.

The principle of substitution is the foundation of each of the three approaches to value.

#### **1. The Cost Approach**

No rational person will pay more for a property than the amount for which a property of equal desirability and utility can be obtained, through purchase of a site and construction of a building, without undue delay.

#### **2. The Market Data Approach**

The value of a property replaceable in the market tends to be set at the cost of acquiring an equally desirable substitute property, assuming no costly delay is encountered in making the substitution.

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<sup>5</sup> "The Appraisal of Real Estate", 12th Edition, Published by the Appraisal Institute

<sup>6</sup> "The Appraisal of Real Estate", 14th Edition, Published by the Appraisal Institute



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### **3. The Income Approach**

Value tends to be set by the effective investment necessary to acquire, without undue delay, a comparable substitute income-producing property offering an equally desirable net income return.

#### **C. Change**

The principle of change asserts that, change is "the result of the cause and effect relationship among forces that influence real property value."<sup>7</sup> This principle holds that factors and conditions which influence real property are constantly changing. Generally, the changes are evolving so slowly that their movement is almost indiscernible.

However the impact of change on property values is quite evident when one observes the various phases in the life cycle of an older neighborhood. Invariably the life cycle is characterized by three basic periods:

**1. Development or growth** is evidenced by new construction and increasing values.

**2. Equilibrium** is the state where development is static and property values level off. Ordinarily this phase of the life cycle enjoys the longest duration.

**3. Disintegration** is evidenced by decline in property values, mixtures of inharmonious uses, and physical decay of older structures.

Obviously, the assessor must be aware of what phases of the life cycle the property and its neighborhood are in at the time the appraisal is made.

The principle of change implies that properties and their environments are in a continuing state of transition. Accordingly, a value estimate is valid only at a specific point in time. In the final analysis, the assessor must recognize changes, which are taking place in the community, and base the appraisals on trends and conditions, which reflect the actions of buyers and sellers in the market.

#### **D. Competition**

The principle of competition implies that when, "net income exceeds the requirements of labor, capital, coordination, and land, the excess constitutes profit and encourages competition."<sup>8</sup> Profit as applied to real property in this context is not the same as profit obtained from the operation of a business. Normal

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<sup>7</sup> "The Appraisal of Real Estate", 14th Edition, Published by the Appraisal Institute

<sup>8</sup> "The Appraisal of Real Estate", 7th Edition, Published by AIREA



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business profit is the monetary return for capital investment in the business. Similarly the normal return on the investment in land and buildings consists of an allocation of net income representing a fair return on the amount of the investment. In the analysis of real property profit implies some net return after all costs of operation and an adequate return to land and buildings have been satisfied. Thus, it is income in excess of that necessary to satisfy the four agents in production.

Whenever a property produces a profit, competition will move in to dissipate that profit. If the profit is excessive, the competition will become excessive. Competition is one of the most familiar and easily recognized forces present at all levels of economic activity. Reasonable competition stimulates further creative contributions; however, in excess it can destroy that which it attempts to create. The appraiser not only recognizes its presence in normal situations but also perceives the situations in which it may weaken and, if unchecked, destroy property values. Competition is a product of supply and demand and a proper study of the highest and best use of a property includes current supply and demand factors.

#### **E. Balance**

"The principle of balance holds that real property value is created and sustained when contrasting, opposing, or interacting elements are in a state of equilibrium."<sup>9</sup> Land in an area is most efficiently utilized when usage is related to the number of services or activities that can be supported by the population. Good zoning laws may assist a desirable balance in land utilization. When more land is allocated to commercial use than the population of the area can support, the commercial land value is adversely affected. Conversely, too little land available for such use may temporarily increase the commercial land value while adversely affecting the value of residential or apartment land that is inadequately provided with retail services. If the lack of commercial land results in strong competitive facilities being located elsewhere, even the existing commercial land value may be restricted in potential value. Improper balance may be reflected in an under or over-improvement of a site (as explained in the discussion of principle of conformity).

Balance underlies the process of estimating highest and best use in appraisal practice. The three principles related to the concept of balance are: (1) increasing and decreasing returns, (2) contribution, and (3) surplus productivity.

#### **F. Increasing and Decreasing Returns**

"The principle of increasing and decreasing returns affirms that larger amounts of the agents in production produce greater net income up to a certain point (the law of increasing returns). At this

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<sup>9</sup> "The Appraisal of Real Estate", 14th Edition, Published by the Appraisal Institute



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point, the maximum value has been developed (the point of decreasing returns). Any additional expenditure does not produce a return commensurate with these additional investments (the law of diminishing returns)."<sup>10</sup> The fertilization of farmland affords a simple example of this principle. Increasing the use of fertilizer may result in a greater yield, up to a point. Beyond this point, however, increasing the use of fertilizer does not produce an additional return sufficient to warrant its additional cost.

It is frequently necessary to determine the character and size of any structural improvement(s) that will enable the land to produce the greatest net yield. To ascertain this point, hypothetical combinations of probable income and expense factors and capital requirements for improvements of various types and sizes are analyzed. This process of developing hypothetical improvements to obtain the combination of agents that will return the greatest net yield illustrates the principle of increasing and decreasing returns as used to develop an opinion of highest and best use.

#### **G. Contribution**

"The principle of contribution states that the value of a particular component is measured in terms of its contribution to the value of the whole property or as the amount that its absence would detract from the value of the whole."<sup>11</sup> The value of any part of a structure or service provided to the occupants must be economically justified by its influence on the structure's productivity (income or occupancy) and utility. With a practical bearing on many valuation problems, the application of this principle is fundamental to any consideration of the feasibility of remodeling or modernizing, since any remodeling project of an existing building must justify itself economically. For example, installation of modern automatic elevators to replace older ones should increase net income by either, a reduction in operating expenses or an increase in rentals, to an amount that will provide for a fair return "on" and a recapture "of" the cost of installation.

The principle of contribution is applicable in valuing lots of varying depths. It is necessary to know the value, if any the additional land contributes to its parcel over and above the value of the standard depth lot in the area. In the reverse situation, where a lot is shorter than standard, its value reflects this loss of contribution by the value of that portion which falls short of conformity to the standard.

#### **H. Surplus Productivity**

"Surplus productivity is the net income to the land remaining after the costs of the other agents of

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<sup>10</sup> "The Appraisal of Real Estate", 7th Edition, Published by AIREA

<sup>11</sup> "The Appraisal of Real Estate", 14th Edition, Published by the Appraisal Institute



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production have been paid."<sup>12</sup> This surplus constitutes a key element in the value of the land in its present use. Surplus productivity is dependent upon the principle of balance, the law of increasing and decreasing returns, and the proper apportionment of labor, capital, coordination and land.

Goods and services resulting from the use of these agents produce gross income. Labor has the first claim on gross income, costs of capital are second, costs of coordination (management) are third, and, in classical economic theory, land is last. Any income remaining after labor, capital, and coordination have been satisfied can be credited to the land for its contribution to the gross income. In appraisal practice, recovery of all or part of the capital invested in land is not provided for as an allowance, such as a depletion allowance for natural resources set aside for that purpose. Any uncertainty concerning the future value of urban land is reflected in the rate of return necessary to attract investment capital.

#### **I. Conformity**

"The principle of conformity holds that real property value is created and sustained when the characteristics of a property conform to the demands of the market."<sup>13</sup> Thus, conformity in use is usually a desirable feature of real property because it tends to create and maintain value. It is maximum value that affords an owner a maximum return. The elements of conformity are not preconceived standards of development, but have evolved as cities grew and land uses multiplied. Homeowners recognized the advantages of living in neighborhoods designed and developed to provide facilities or amenities adding to the benefits of ownership and they protected these assets by maintaining conformity through zoning.

Certain effects of a violation of the principle of conformity may be observed. For example, an over-improvement, under-improvement or misplaced improvement lacks conformity between a property and its environment. The value of an over-improvement sometimes declines (regresses) toward the value level of the conforming properties; conversely, under-improvement sometimes increases toward the value level of adjacent and otherwise conforming properties. The concepts of Regression and Progression relate to the principle of conformity.

The concept of regression maintains that between dissimilar properties, the value of the superior property is affected adversely by the presence of the inferior. The concept of progression is the opposite of regression; that is, the value of the lesser object is enhanced by association with better objects of the same type.

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<sup>12</sup> "The Appraisal of Real Estate", 14th Edition, Published by the Appraisal Institute

<sup>13</sup> "The Appraisal of Real Estate", 14th Edition, Published by the Appraisal Institute





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#### **J. Supply and Demand**

The principle of supply and demand states that the price of a commodity, good, or service or in a real estate context, "real property varies directly, but not necessarily proportionately, with demand and inversely, but not necessarily proportionately, with supply."<sup>14</sup> The supply of property depends upon the demand for that type of property and the supply available, within the limits of available purchasing power. Property values fluctuate, often widely, through operation of this principle. When there are more residential units, store spaces, shopping centers or motels than there are people who desire or need them and who have the money with which to purchase or rent them, the result is vacancy, foreclosures, reduced rentals and lower sales prices. When demand catches up with supply, vacancies vanish; rentals and sales prices increase, and when demand exceeds supply, rentals and sales prices increase still more. This real estate cycle is ever in motion, but the hills and valleys on a graph chart are more severe for an area that is active. If supply and demand were to remain in reasonable balance at all times, the work of the assessor/appraiser would be greatly simplified.

#### **K. Externalities**

"The principle of externalities states that factors external to a property can have either a positive or negative effect on its value."<sup>15</sup> Improvements and services such as highways and police and fire protection typically have a positive effect on value whereas factors such as adverse environmental conditions on a nearby property and the closing of a factory that is a major employer in the area typically have a negative effect on property value. Because real estate is immobile it can be affected by forces outside the property itself.

#### **L. Highest and Best Use**

For the purpose of real estate considerations Highest and Best Use is that use which maximizes the net return to the land and improvements over a given period of time. Real estate is an expensive and an immobile commodity. Consequently, it tends to be used as profitably as possible within the realm of legal limitations and market conditions. "Analysis of highest and best use includes consideration of both the land as though vacant, and the property as improved."<sup>16</sup> The highest and best use of a particular property is defined by the following criteria:

**1. Legally Permissible** – A property use that is in compliance with governmental regulations and other regulatory or contractual restrictions.

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<sup>14</sup> "The Appraisal of Real Estate", 14th Edition, Published by the Appraisal Institute

<sup>15</sup> "The Appraisal of Real Estate", 14th Edition, Published by the Appraisal Institute

<sup>16</sup> "The Appraisal of Real Estate", 12th Edition, Published by the Appraisal Institute



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**2. Physically Possible** – A property use that is not limited by physical characteristics of the land.

**3. Financially Feasible** – An analysis of property use that considers the economic characteristics of potential uses.

**4. Maximum Productivity** – A property use that would ordinarily be expected to provide the best net return for the longest period of time.

A highest and best use analysis is an integral portion of the appraisal process but quite often is the component of real property valuation that receives only minimal analysis. Without a reasonable understanding of a property's highest and best use the property could be inappropriately analyzed and the concluded value may not be reasonable or supportable. Ordinarily, an extensive analysis of increasing and decreasing returns may not be necessary to determine the specific use of a particular land tract or improved property. For the most part, a property's present use will be its highest and best use, providing it conforms to the general program of land utilization found on adjoining properties and is consistent with applicable zoning. It should be pointed out however, that in some cases a property's present use is not its highest and best use and that property could require an extensive highest and best use analysis. For ad valorem valuation purposes an assessor must be consistent and equitable in determining highest and best use and property is generally classified as residential, agricultural or commercial based upon actual use.

The various levels of property values are determined by action of the real estate market in a particular community or county. It is the assessor's responsibility to investigate and analyze all segments of this market for the purpose of developing reasonably accurate and equitable value estimates. The procedure involved in accomplishing this is known as "**The Valuation Process**". Briefly, this process may be defined as an orderly and systematic method of acquiring, classifying and analyzing data, and arriving at a supportable estimate of value. This procedure, as it applies to mass appraising, evolves around the three traditional approaches to value – The Cost Approach, The Market Approach and The Income Approach. All three approaches, though seemingly dependent upon separate considerations, are derived from an analysis of market data.

### 5. The Valuation Process

"The valuation process is a systematic set of procedures an appraiser follows to provide answers to a client's questions about real property value."<sup>17</sup> The process is initiated when an appraisal problem becomes known, and ends with a report of conclusions. Between these end points are a number of logical, intuitive steps that lead the appraiser from understanding, to research, then finally to a well

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<sup>17</sup> "The Appraisal of Real Estate", 14th Edition, Published by the Appraisal Institute



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supported opinion.

#### **A. Definition of the Problem**

The first critical step along the path in the valuation process is to build a framework of understanding around the appraisal question. This step addresses issues which set the limits of the assignment, define the parameters upon which later opinions are based, and serve to avoid any misunderstanding on the part of the end user of the appraisal.

**1. Identify the intended user, users, or client.** The appraiser must have a clear understanding for whom the work is being performed, and of those parties subject to exposure to the appraisal. This knowledge then leads to the next step.

**2. Identify the intended use of the appraisal.** The appraiser and the client or intended user must be in agreement about the specific purpose for making the appraisal. This avoids wasted effort, and dictates the course of research followed as the valuation process proceeds.

**3. Identify the purpose of the appraisal.** Here the appraiser determines and states the value to be concluded, whether it be market value, use value, going-concern value, investment value, or assessed value. The purpose must be appropriate for the intended use of the appraisal.

**4. Identify the date of the opinion of value.** This is a specific landmark in the valuation process, a set point in time where the opinion of value exists in an ever-changing landscape of market conditions. This date may be current, retrospective, or prospective.

**5. Identify the property characteristics.** A good footing has been laid thus far. Now the appraiser must finish constructing the foundation upon which the opinion of value will be built. There must be a thorough understanding, by the appraiser, about his subject. Where is it located? Are there restrictions that affect the property? What is to be included in value determination? The appraiser must know and report what property interests will be reflected by the opinion of value be they fee simple, leased fee, value in use, fractional, etc.

**6. Identify any extraordinary assumptions.** "Extraordinary assumptions presume uncertain information to be factual"<sup>18</sup>. Extraordinary assumptions may or may not be true as of the effective date of the valuation and are specific to a particular assignment. Should the assumptions prove not to be true the estimated value may no longer hold true. An example of an extraordinary assumption would be if an opinion of value were made assuming the property suffers no form of contamination, yet this is

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<sup>18</sup> "The Appraisal of Real Estate", 12th Edition, Published by the Appraisal Institute



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not a fact known in certainty to the appraiser.

**7. Identify any hypothetical conditions.** These are stated conditions affecting a property which are known to not be fact, but are declared so as a basis upon which the opinion of value is made. Here, the subject would be known to be contaminated, but the intended use, purpose of the appraisal, or perhaps the date of the opinion of value may dictate that the appraiser considered it otherwise.

**8. Identify Jurisdiction Exceptions.** Occasionally a jurisdictional exception needs to be considered and it will effect an appraisal assignment. This occurs when relevant law and/or a regulation supersedes compliance with professional standards that would typically apply for an appraisal assignment. An example of this, in the case of the Missouri State Tax Commission, is that agricultural land is valued on the basis of its concluded productivity with a chart of soil grade values being utilized.

“The scope of work is the amount and type of information researched and the analysis applied in an assignment.”<sup>19</sup> The scope of work is tied directly to the appraiser’s understanding of the intended use and the purpose of the appraisal. The responsibility in determining the appropriate scope of work is determined by the appraiser and must lead to credible results. The appraiser clearly reports what has been done, and what has not been done in the process of determining the value conclusion. The appraiser is responsible to the client to communicate why any departure has been made from the complete valuation process.

### **B. Data Collection and Property Description**

With the preliminary steps now complete to form a solid foundation, the appraiser turns next to the collection of data necessary to build the value conclusion. The appraiser collects data that is both general (macro-level) data and specific (micro-level) data. Macro-level data gives insight into the environment in which the subject property exists. This information consists of governmental, economic, and demographic/social characteristics prevalent in the subject’s market area. Micro-level data gives insight into the subject of the appraisal and into those properties utilized in comparable analysis. This information runs the gambit from the physical to the financial, and details every facet necessary for the valuation process to move forward into analysis.

**1. Market area data** bears collection for the analysis of the subject’s region, city, and neighborhood or market area.

**2. Subject property data** collected should include all relevant characteristics of the subject land, improvements, and any other property characteristics previously identified earlier in the process

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<sup>19</sup> “The Appraisal of Real Estate”, 12th Edition, Published by the Appraisal Institute



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while defining the appraisal problem.

**3. Comparable property data** collected includes specific points of information from the subject's market as manifested by properties similar to the subject property. This data may be in the form of sales, listings-for-sale, offerings, vacancies, cost and depreciation, rental income, operating expense, vacancy, and capitalization data. The greater the quality and quantity of this data, the more stable is the foundation and frame from which springs the opinion of value.

#### **C. Data Analysis**

The next step in the valuation process is to insightfully analyze the general and specific data collected in the previous step. This analysis generally branches into two disciplines.

**1. Market analysis** provides an understanding of the conditions that affect each approach to value. This is a study of the specific market environment in which the subject exists. For example, such analysis may yield knowledge of externalities to be considered in the cost approach, adjustment factors in the sales comparison approach, and capitalization considerations in the income approach to value. Market analysis "provides a background against which local developments are considered" and "knowledge of the broad changes that affect supply and demand".<sup>20</sup> The depth of analysis is directly related to the scope of work already determined to be appropriate to the appraisal problem.

**2. Highest and best use analysis** provides the appraiser with important tools. The appraiser should select optimal properties for use as comparable land and or improved sales and or comparable rental properties. Comparable properties should share the highest and best use characteristics of the subject. Additionally the appraiser should identify obsolescence indigenous to the subject. Should the improvement be razed? Should the improvements be modified? Is the improvement the most advantageous in optimizing return to the land? The answers to these questions have great influence upon the opinion of value. Highest and best use analysis should consider the ideal theoretical improvement, as if the site were vacant, and consider the property, as it exists improved, if it is improved. "The highest and best use conclusion should specify the optimal use, (or uses) when the property will be put to this use or achieve stabilized occupancy, and who would be the most likely purchaser or user of the property."<sup>21</sup>

#### **D. Land Value Opinion**

Where it is at all practicable, the appraiser should develop a separate value for the subject's land or

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<sup>20</sup> "The Appraisal of Real Estate", 12th Edition, Published by the Appraisal Institute

<sup>21</sup> "The Appraisal of Real Estate", 14th Edition, Published by the Appraisal Institute



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site. Most preferred is a valuation from the analysis of land sales in the subject's market area that share the highest and best use characteristics of the subject. However, where a sufficient quality or quantity of such data fails to exist, other techniques may be employed, as discussed later in Section 6.1. Separate valuation of the land is insightful when performing the income or sales comparison approaches to value, and critical when performing the cost approach to value.

#### **E. Application of the Approaches to Value**

The valuation process has now reached the stage where the appraiser utilizes all the previous steps to begin formulating indications of the subject's value. These indications are reached through the three approaches to value; the cost approach; the sales comparison approach; and the income approach to value. Not every appraisal situation will require the application of all three approaches to value. Nor will it be possible in every applicable situation to apply all three approaches to value. However, where an approach can be applied to the subject, it should be applied, consistent with the scope of work previously determined.

Each approach, as described in detail in Section 6.2, Section 6.3, and Section 6.4, may appear to be an autonomous methodology, but all are also interrelated. For example, what has been learned from the application of the income approach could serve to indicate adjustments in the sales comparison approach, or assess depreciation in the cost approach. Each approach should be explored as to how it relates to the other approaches.

#### **F. Reconciliation of Value Indications and Final Opinion of Value**

Approaching the end of the valuation process, the appraiser must now weigh the strengths, weaknesses, and applicability of each approach to value. Once accomplished, a final opinion of value is reached. This value may reflect the indicated value of one approach, or a blending of multiple approach values. The appraiser has now built a solid, supportable opinion of value within the well defined and understood parameters of the appraisal problem.

#### **G. Report of Defined Value**

The final step of the appraisal process is to report the defined opinion of value to the client. This may take many forms from a verbal report, to any one of many written report formats. The form in which the opinion of value is reported reflects the intended use, intended user or client, and the purpose of the appraisal.



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## **6. The Uniform Standards of Professional Appraisal Practice or USPAP**

The Uniform Standards of Professional Appraisal Practice were developed by the Appraisal Standards Board of the Appraisal Foundation, and adopted as effective April 27, 1987. The Appraisal Foundation is authorized by the United State Congress as the source of appraisal standards and appraiser qualifications. USPAP is regularly reviewed by the Appraisal Standards Board, edited, and amended as deemed necessary. As such, it is a consistently evolving document, always current to the circumstances of the appraisal profession.

“The purpose of the Uniform Standards of Professional Appraisal Practice (USPAP) is to promote and maintain a high level of public trust in appraisal practice by establishing requirements for appraisers.”<sup>22</sup> The 2016-2017 edition of USPAP consists of: Definitions, the Preamble, the Ethics Rule, the Record Keeping Rule, Competency Rule, Scope of Work Rule, and the Jurisdictional Rule. Also included in this publication are eight standards (formerly ten) that encompass development and reporting of real property appraisal, personal property appraisal, appraisal review, mass appraisal and business appraisal. “It is essential that appraisers develop and communicate their analyses, opinions, and conclusions to intended users or their services in a manner that is meaningful and not misleading.”<sup>23</sup>

What follows is only a brief introduction to the concepts set forth by USPAP, and does not reflect the actual or entirety of the text. An appraiser/assessor needs to obtain a working knowledge of USPAP and should remain up to date with revisions.

### **A. The Ethics Rule, In Brief**

The ethics rule is intended to maintain public trust in the appraisal profession. The rule addresses four specific issues: conduct, management, confidentiality, and record keeping. The appraiser must not act fraudulently, in a criminal manner, as an advocate, or discriminatory in the practice of the appraisal profession. The appraiser must not engage in misleading advertising, nor accept compensation contingent upon the outcome of an assignment. The appraiser must maintain an understanding of all confidentially and privacy laws, protect the appraiser-client relationship, and never disclose confidential data unless specifically authorized to do so by the client or as required by agencies of enforcement.

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<sup>22</sup> “Uniform Standards of Professional Appraisal Practice and Advisory Opinions”, 2016-2017, Published by the Appraisal Foundation

<sup>23</sup> “Uniform Standards of Professional Appraisal Practice and Advisory Opinions”, 2016-2017, Published by the Appraisal Foundation



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#### **B. The Record Keeping Rule in Brief**

This rule establishes the work file requirements for written and oral appraisals as well as written and oral review appraisals. The appraiser must prepare and maintain a work file for each assignment and retain the file for a minimum 5 years, and two years after the disposition of judicial proceedings, which ever expires last.

#### **C. The Competency Rule, In Brief**

The appraiser must have the requisite experience and knowledge to credibly complete an assignment, or disclose to the client the lack thereof.

#### **D. The Scope of Work Rule, In Brief**

This rule “presents obligations related to problem identification, research and analyses. An appraiser must properly identify the problem to be solved in order to determine the appropriate scope of work.”<sup>24</sup> The circumstances of an assignment, or its intended use, should never limit the scope of work such that credibility is threatened or the results are biased.

#### **E. The Jurisdictional Exception Rule, In Brief**

This rule “preserves the balance of USPAP if a portion is contrary to law or public policy of a jurisdiction.”<sup>25</sup>

#### **F. Standard 1: Real Property Appraisal, Development, In Brief**

“In developing a real property appraisal, an appraiser must identify the problem to be solved, determine the scope of work necessary to solve the problem, and correctly complete research and analysis necessary to produce a credible appraisal.”<sup>26</sup> Standard 1 and its Standard Rules 1-1 through Standards Rule 1-6 provide the appraiser with detailed clarification of the required items of consideration and instructions regarding the development of an opinion of value for a single property assignment.

#### **G. Standard 2: Real Property Appraisal, Reporting, In Brief**

“In reporting the results of a real property appraisal, an appraiser must communicate each analysis,

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<sup>24</sup> “Uniform Standards of Professional Appraisal Practice and Advisory Opinions”, 2016-2017, Published by the Appraisal Foundation

<sup>25</sup> “Uniform Standards of Professional Appraisal Practice and Advisory Opinions”, 2016-2017, Published by the Appraisal Foundation

<sup>26</sup> “Uniform Standards of Professional Appraisal Practice and Advisory Opinions”, 2016-2017, Published by the Appraisal Foundation





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opinion, and conclusion in a manner that is not misleading.”<sup>27</sup> Standard 2 and its Standards Rule 2-1 through Standards Rule 2-4 provide the appraiser with the requirements for what is to be included in oral or written appraisal report or a restricted use appraisal report for a single property assignment.

#### **H. Standard 3: Appraisal Review, Development & Reporting, In Brief**

“In developing an appraisal review assignment, an appraiser acting as a reviewer must identify the problem to be solved, determine the scope of work necessary to solve the problem, and correctly complete research and analyses necessary to produce a credible appraisal review.”<sup>28</sup> Standard 3 and its Standards Rule 3-1 through Standards Rule 3-7 provide an appraiser acting as a reviewer with the requirements for developing and reporting a review of another appraiser’s work.

#### **I. Standard 4: Real Property Appraisal Consulting, Development**

This standard has been retired by the Appraisal Standards Board.

#### **J. Standard 5: Real Property Appraisal Consulting, Reporting,**

This standard has been retired by the Appraisal Standards Board.

#### **K. Standard 6: Mass Appraisal, Development & Reporting, In Brief**

“In developing a mass appraisal, an appraiser must be aware of, understand, and correctly employ those recognized methods and techniques necessary to produce and communicate credible mass appraisals.”<sup>29</sup> Standard 6 and its Standards Rule 6-1 through Standards Rule 6-9 provide the appraiser with a detailed elucidation of the required items of consideration and instructions regarding the development of a mass appraisal, and provide the requirements for reporting a mass appraisal. Standard 6 is among the most relevant and significant sections of USPAP to the assessment professional.

#### **L. Standard 7: Personal Property Appraisal, Development, In Brief**

“In developing a personal property appraisal, an appraiser must identify the problem to be solved, determine the scope of work necessary to solve the problem, and correctly complete research and

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<sup>27</sup> "Uniform Standards of Professional Appraisal Practice and Advisory Opinions", 2016-2017, Published by the Appraisal Foundation

<sup>28</sup> "Uniform Standards of Professional Appraisal Practice and Advisory Opinions", 2016-2017, Published by the Appraisal Foundation

<sup>29</sup> "Uniform Standards of Professional Appraisal Practice and Advisory Opinions", 2016-2017, Published by the Appraisal Foundation



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analyses necessary to produce a credible appraisal.”<sup>30</sup> Standard 7 and its Standard Rules 7-1 through Standards Rule 7-6 provide the appraiser with a detailed clarification of the required items of consideration and instructions regarding the development of an opinion of value for a personal property appraisal assignment.

#### **M. Standard 8: Personal Property Appraisal, Reporting, In Brief**

“In reporting the results of a personal property appraisal, an appraiser must communicate each analysis, opinion, and conclusion in a manner that is not misleading.”<sup>31</sup> Standard 8 and its Standards Rule 8-1 through Standards Rule 8-4 provide the appraiser with the requirements for what is to be included in oral or written report, be they a self-contained appraisal report, a summary appraisal report, or a restricted use appraisal report for a personal property appraisal assignment.

#### **N. Standard 9: Business Appraisal, Development, In Brief**

“In developing an appraisal of an interest in a business enterprise or intangible asset, an appraiser must identify the problem to be solved, determine the scope of work necessary to solve the problem, and correctly complete the research and analyses necessary to produce a credible appraisal.”<sup>32</sup> Standard 9 and its Standard Rules 9-1 through Standards Rule 9-5 provide the appraiser with a detailed elucidation of the required items of consideration and instructions regarding the development of an opinion of value for a business appraisal assignment.

#### **O. Standard 10: Business Appraisal, Reporting, In Brief**

“In reporting the results of an interest in a business enterprise or intangible asset, an appraiser must communicate each analysis, opinion, and conclusion in a manner that is not misleading.”<sup>33</sup> Standard 10 and its Standards Rule 10-1 through Standards Rule 10-4 provide the appraiser with the requirements for what is to be included in oral or written report, be they an Appraisal Report or a Restricted Appraisal Report for a business appraisal assignment.

### **6.1 LAND VALUATION**

The assessor is concerned with making correct and uniform valuations of real estate, which involves the consideration of two separate entities: (1) The land, which is permanent (immovable) and

<sup>30</sup> “Uniform Standards of Professional Appraisal Practice and Advisory Opinions”, 2016-2017, Published by the Appraisal Foundation

<sup>31</sup> “Uniform Standards of Professional Appraisal Practice and Advisory Opinions”, 2016-2017, Published by the Appraisal Foundation

<sup>32</sup> “Uniform Standards of Professional Appraisal Practice and Advisory Opinions”, 2016-2017, Published by the Appraisal Foundation

<sup>33</sup> “Uniform Standards of Professional Appraisal Practice and Advisory Opinions”, 2016-2017, Published by the Appraisal



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imperishable (not subject to depreciation), and (2) the improvements which are typically affected by depreciation (physical, functional and/or external). In approaching the problem of land valuation, the assessor must realize that land fluctuates in value. Therefore, the valuation of land must be based upon an analysis of the local market at a given point in time.

The assessor must first establish a system of land classification based upon general use. For assessment purposes in Missouri, land classification can be divided into three major categories: (1) **Residential**--property used for human habitation; (2) **Agricultural**--property used for the production of crops and/or livestock and (3) **Commercial/Industrial**--property used for the sale of goods and/or services or for the production and fabrication of goods and all other that is not residential or agricultural. Within each major classification there may be several subclassifications; however, the basic principles and procedures of land valuation will be applicable regardless of class refinement.

Secondly, the assessor should establish a system of collecting, confirming, and analyzing land sales for the county. The sale information can be refined into sales within a particular area of the county, sales within a particular city or even into an area within a city having a particular land use. The level of refinement would depend on available sale information within a county with metropolitan areas most likely requiring more refinement than a small rural county. For those familiar with developing spreadsheets on a computer this information can be broken down into units of value such as value per front foot, value per square foot, value per acre, value per lot, or value per buildable-unit basis that are categorized by land use, location or whatever additional category that is desired. For those that are not familiar with developing spreadsheets the same information can be placed on a county map, a city map, or a map of an area of a city. The spreadsheet and/or mapping method would be helpful in displaying a range of value on a unit basis for vacant land sales in a particular location and/or for a particular use. This type of documentation is particularly beneficial when defending a value when challenged. It should also be noted that any documentation concerning any sale should be retained either digitally or in written form.

Illustrations of a valuation spreadsheet and a valuation map are shown in **Exhibit 6.1 and Exhibit 6.2**. **Exhibit 6.3** is an illustration of a form used to record pertinent market data.



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#### EXHIBIT 6.1

##### Commercial Land Sales

Sale Date	Address	City	Parcel #	Lot Size	SP/Ft. Ft.	Sq. Ft. Size	Acre(s)	Sale Price	SP/Sq. Ft.	SP/Acre	Description
May-16	Alvarado & 3rd	My Town	00-0.0-00-000-000-000.00	50x100	\$186.00	5,000.00	0.115	\$ 9,300.00	\$ 1.86	\$ 81,021.60	Has Slab Left
Feb-12	Along Hwy 28	My Town	00-0.0-00-000-000-000.00	200x435	\$362.50	87,120.00	2.510	\$ 72,500.00	\$ 0.83	\$ 28,884.46	Imprvd After Sale
May-15	Alvarado & 5th	My Town	00-0.0-00-000-000-000.00	100x150	\$360.00	15,000.00	0.344	\$ 36,000.00	\$ 2.40	\$ 104,544.00	Imprvd After Sale
Feb-14	Alvarado & 44th	My Town	00-0.0-00-000-000-000.00	100x156	\$425.00	15,619.00	0.359	\$ 42,500.00	\$ 2.72	\$ 118,528.72	Imprvd After Sale

##### Residential and Other Use Land Sales

Jun-16	Route AA	Your Town	00-0.0-00-000-000-000.00	200x248	\$75.00	49,658.40	1.140	\$ 15,000.00	\$ 0.30	\$ 13,157.89	North Edge of Town
Oct-13	Westside Drive	Your Town	00-0.0-00-000-000-000.00	100x261	\$125.00	26,136.00	0.600	\$ 12,500.00	\$ 0.48	\$ 20,833.33	West Edge of Town
Oct-13	Taylor Avenue	My Town	00-0.0-00-000-000-000.00	50x150	\$35.00	7,500.00	0.172	\$ 1,750.00	\$ 0.23	\$ 10,164.00	Unknown Ck Out
Jan-14	Route M	My Town	00-0.0-00-000-000-000.00	200x439	\$60.00	87,991.20	2.020	\$ 12,000.00	\$ 0.14	\$ 5,940.59	West Area of Town
Dec-13	Highway 19555	My Town	00-0.0-00-000-000-000.00	400x817	\$56.25	326,700.00	7.500	\$ 22,500.00	\$ 0.07	\$ 3,000.00	East of Town
Jun-12	Main Street	Your Town	00-0.0-00-000-000-000.00	75x145	\$133.33	10,890.00	0.250	\$ 10,000.00	\$ 0.92	\$ 40,000.00	Central Bus. Dist.
Mar-13	Westside Drive	Your Town	00-0.0-00-000-000-000.00	100x270	\$125.00	27,007.20	0.620	\$ 12,500.00	\$ 0.46	\$ 20,161.29	West Edge of Town
Dec-16	Off Highway 498	Your Town	00-0.0-00-000-000-000.00	150x871	\$43.33	130,680.00	3.000	\$ 6,500.00	\$ 0.05	\$ 2,166.67	Unknown Ck Out
Oct-16	Main Street	Your Town	00-0.0-00-000-000-000.00	50x174	\$200.00	8,712.00	0.200	\$ 10,000.00	\$ 1.15	\$ 50,000.00	Central Bus. Dist.
Oct-09	County Road 634	Your Town	00-0.0-00-000-000-000.00	600x726	\$41.67	435,600.00	10.000	\$ 25,000.00	\$ 0.06	\$ 2,500.00	NW Rural Location
Nov-06	Main Street	Your Town	00-0.0-00-000-000-000.00	100x192	\$60.00	19,166.40	0.440	\$ 6,000.00	\$ 0.31	\$ 13,636.36	Central Bus. Dist.



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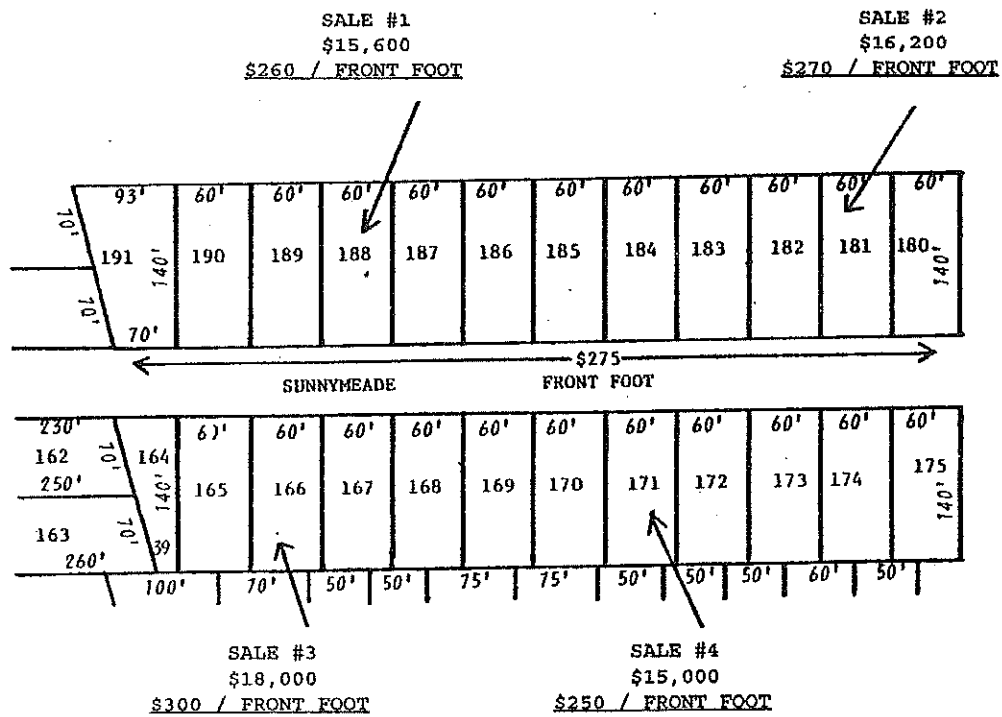
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EXHIBIT 6.2





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#### EXHIBIT 6.3

##### MARKET DATA

Map No. \_\_\_\_\_

Grantor \_\_\_\_\_

Grantee \_\_\_\_\_

Location of Address \_\_\_\_\_

Legal Description \_\_\_\_\_  
(Use space on back if needed)

Date of Sale \_\_\_\_\_ Sale Price \$ \_\_\_\_\_ Book \_\_\_\_\_ Page \_\_\_\_\_

Verified By \_\_\_\_\_ Date \_\_\_\_\_ Zoning \_\_\_\_\_

Land Use \_\_\_\_\_ Vacant \_\_\_\_\_ Improved \_\_\_\_\_ Age of Improvement \_\_\_\_\_

Dimensions \_\_\_\_\_ x \_\_\_\_\_ = Size \_\_\_\_\_ Square Feet/Acres \_\_\_\_\_

Unit Land Price: Front Foot \$ \_\_\_\_\_ Square Foot \$ \_\_\_\_\_ Acres \$ \_\_\_\_\_

Land Value \$ \_\_\_\_\_ Improvement Value \$ \_\_\_\_\_ Total Value \$ \_\_\_\_\_

Additional Information: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Assuming that the land in a given area has been correctly classified and that all pertinent sales and zoning information has been posted on the spreadsheet or property map(s), the assessor is in a position to analyze the market. The assessor's objectives are to: (1) select the proper unit of measurement; (2) determine standard lot size and depth; (3) establish the standard unit price of land and (4) establish the basis for adjusting for nonstandard features.

Land valuation is basic to real estate appraisals. It encompasses three separate functions: land identification, site analysis and land valuation. Within the identification function, the assessment or aerial map is of particular importance to the assessor. Both site analysis and valuation encompass principles and techniques pertinent to the three approaches to value.



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#### **1. Land Identification**

The first step in land valuation is identification of property, since it is essential that the assessor know how much land is being valued and where it is located. A legal description of real property identifies that property from all other properties in the area and further defines the location.

It is important that this description is correct down to the smallest detail as every letter, word, and figure has a meaning regarding the identity of the property. Once the land has been properly identified and described, an analysis of the property may be undertaken.

Therefore, an understanding of how to read and interpret legal descriptions is required. The following are the most common methods used to describe real estate in the State of Missouri.

#### **A. Rectangular Survey System**

The rectangular survey system is based upon existing law and was devised with the objective of marking and fixing for all time legal descriptions for purposes of describing and disposing of the public domain under the general land laws of the United States. "The rectangular survey system, which is also known as the *government survey system*, was established by the Land Ordinance of May 20, 1785."<sup>34</sup>

The rectangular land survey system is the most commonly used method of legally describing rural real estate. It embodies the recording of the identity of the section, township, range and the fractional description of property therein. Surveys of the rectangular system are located with respect to an initial point formed by the intersection of a Principal Meridian and a Base Line. The Principal Meridian is a true North-South line that passes through the geographic poles of the earth, while the Base Line is a line running East and West parallel to the equator. Once a Principal Meridian and Base Line has been established, additional divisions are created by the use of Township Lines and Range Lines. Range Lines run parallel to the Principal Meridian in a North and South direction and perpendicular from the Base Line at intervals of six (6) miles to an intersection with the next established Township Line. Township Lines run East to West, parallel to the Base Line, intersecting the Principal Meridian Line at intervals of six (6) miles.

The intersections of these Range and Township Lines thereby establish Townships approximately thirty-six miles square. Each six-mile division either North or South of the Base Line is called a Township North or a Township South, while each six-mile division either East or West of the Principal Meridian is called a Range East or a Range West. For example, Township 45 North, Range 30 West

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<sup>34</sup> "The Appraisal of Real Estate", 14th Edition, Published by the Appraisal Institute



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indicates that the southeast corner of this Township lies 45 Township Lines North of the Base Line and 30 Range Lines West of the Principal Meridian. An illustration of the rectangular survey grid is shown in **Exhibit 6.4**.





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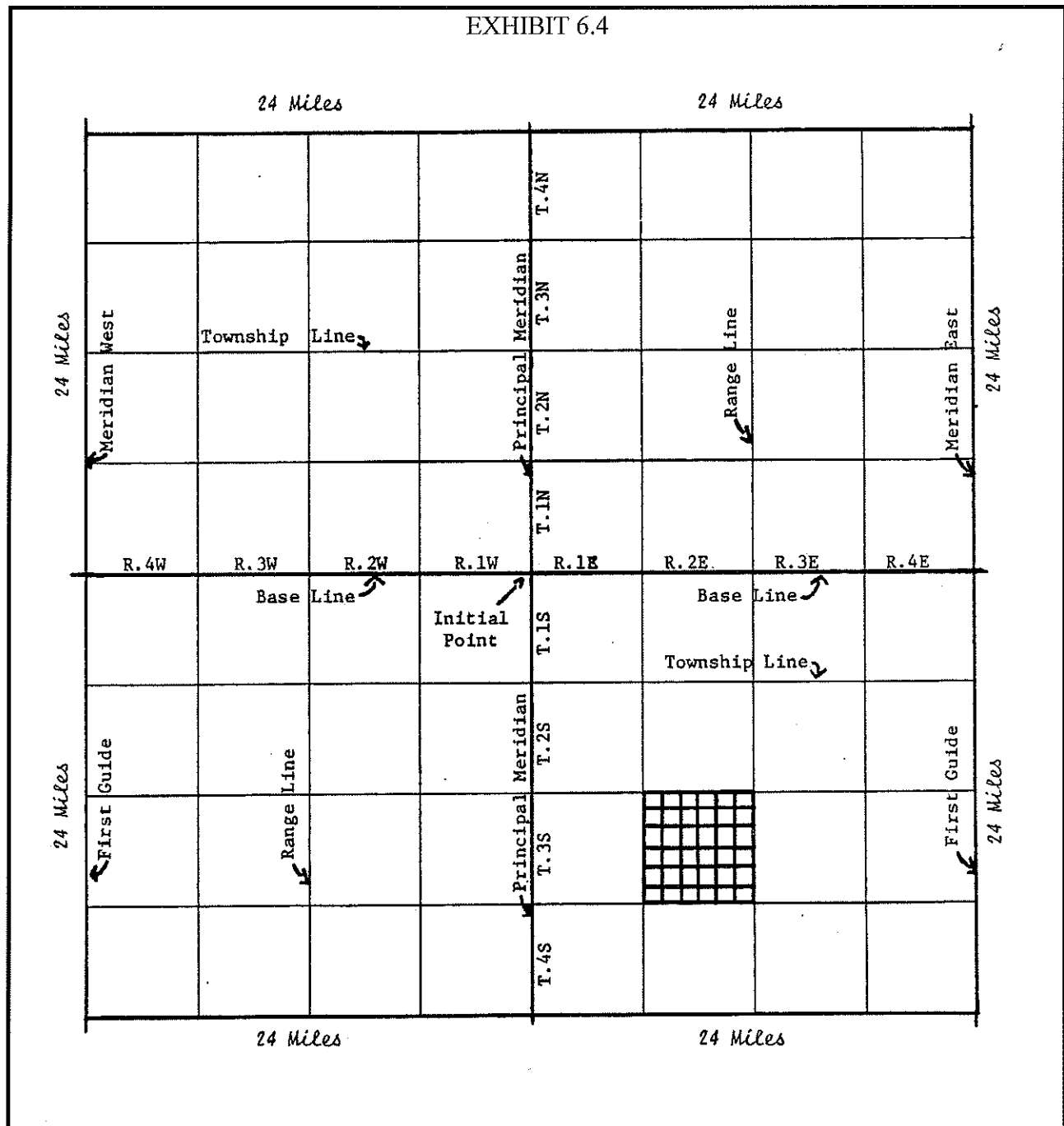
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EXHIBIT 6.4





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The key to the rectangular survey system is centered on the basic unit of a Township, with the subdivision of each Township into thirty-six equal sections of 640 acres each, more or less. Each section is approximately one-mile square. These sections are numbered consecutively, beginning with the section (Section 1) at the northeast corner of each Township and continuing west to the northwest corner (Section 6). The sequence of numbers then drops down one row and runs back to the East six sections and so on, until the entire Township is numbered, with Section 36 in the southeast corner. **Exhibit 6.5** shows the section numbering sequence of a Township.



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#### EXHIBIT 6.5

#### TOWNSHIP MAP SHOWING SECTION NUMBERS

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36



The method of numbering the sections within a township should be carefully studied even though it is a simple process. Beginning with section number 1 in the northeast corner of the township, the sections are numbered to the left from 1 to 6 in the top tier of sections, then down one tier and the counting is to the right to section 12, then down one tier and to the left, then down one tier and to the right, then down another tier and to the left and down one tier and to the right, ending with section 36 in the lower right hand corner of the township.



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As can be seen in the following description, further divisions can be made by reference to the halves and quarters of a sectional division. Take for example this description: the NE1/4 of the NW1/4 of the NW1/4 of Section 14, Township 45 North, Range 30 West. In analyzing this description, it is necessary to note that the first one-quarter section (the NE1/4) mentioned is the property of primary interest, and all subsequent mention of one-quarter sections relates only to the divisions necessary to locate the property. The key to the foregoing description is found in reading it backwards (**See Exhibit 6.6**). By progressively defining it in a reverse manner, the location of the property being described within the given section is delineated. When writing the fractions in legal descriptions, it is permissible to write only the denominators - E1/2 becomes E2; NE1/4 becomes NE4; etc. **Exhibit 6.7** is a chart depicting a Section and the subdivision distribution thereof.



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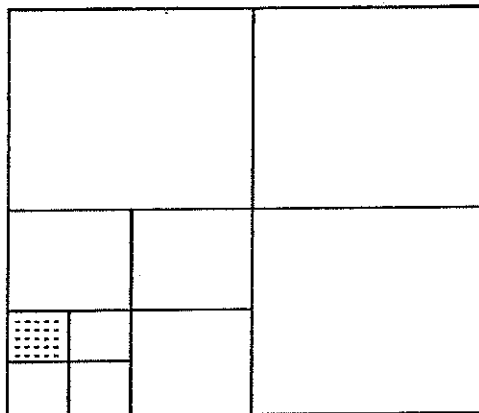
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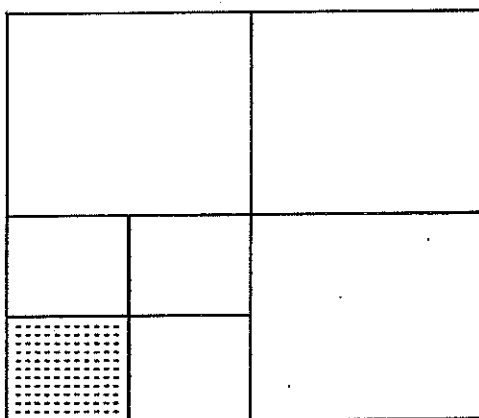
### EXHIBIT 6.6

#### EXHIBIT 6.5

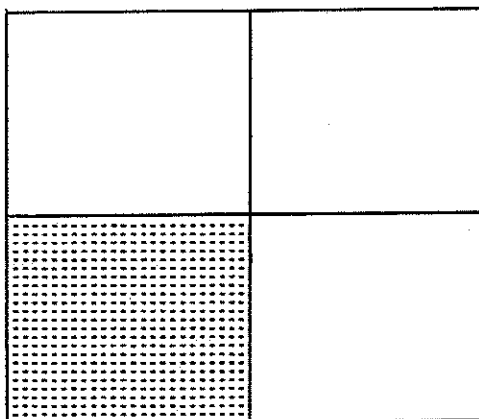
#### ANALYSIS OF PROPERTY DESCRIPTION



NE 1/4 of the NW 1/4 of Section 14



NW 1/4 of the NW 1/4 of Section 14



NW 1/4 of Section 14



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### EXHIBIT 6.7

#### SECTION MAP SHOWING SUBDIVISIONS THEREOF

$N\frac{1}{2}$ of $NW\frac{1}{4}$  80 acres		<div style="text-align: center;">N ↑</div>				$W\frac{1}{2}$ of $NW\frac{1}{4}$ of $NE\frac{1}{4}$  20 acres	$E\frac{1}{2}$ of $NW\frac{1}{4}$ of $NE\frac{1}{4}$  20 acres	$W\frac{1}{2}$ of $NE\frac{1}{4}$ of $NE\frac{1}{4}$  20 acres	$E\frac{1}{2}$ of $NE\frac{1}{4}$ of $NE\frac{1}{4}$  20 acres
$S\frac{1}{2}$ of $NW\frac{1}{4}$  80 acres		$N\frac{1}{2}$ of $SW\frac{1}{4}$ of $NE\frac{1}{4}$  20 acres		$N\frac{1}{2}$ of $SE\frac{1}{4}$ of $NE\frac{1}{4}$  20 acres		$S\frac{1}{2}$ of $SW\frac{1}{4}$ of $NE\frac{1}{4}$  20 acres		$S\frac{1}{2}$ of $SE\frac{1}{4}$ of $NE\frac{1}{4}$  20 acres	
$NW\frac{1}{4}$ of $SW\frac{1}{4}$  40 acres	$NE\frac{1}{4}$ of $SW\frac{1}{4}$  40 acres	$NW\frac{1}{4}$ of $NW\frac{1}{4}$ of $SE\frac{1}{4}$  10 acres	$NE\frac{1}{4}$ of $NW\frac{1}{4}$ of $SE\frac{1}{4}$  10 acres	$N\frac{1}{2}$ of $NE\frac{1}{4}$ of $SE\frac{1}{4}$  20 acres		$SW\frac{1}{4}$ of $NW\frac{1}{4}$ of $SE\frac{1}{4}$  10 acres	$SE\frac{1}{4}$ of $NW\frac{1}{4}$ of $SE\frac{1}{4}$  10 acres	$S\frac{1}{2}$ of $NE\frac{1}{4}$ of $SE\frac{1}{4}$  20 acres	
$SW\frac{1}{4}$ of $SW\frac{1}{4}$  40 acres	$SE\frac{1}{4}$ of $SW\frac{1}{4}$  40 acres	$W\frac{1}{2}$ of $NW\frac{1}{4}$ of $SW\frac{1}{4}$ of $SE\frac{1}{4}$ 5 a.	$E\frac{1}{2}$ of $NW\frac{1}{4}$ of $SW\frac{1}{4}$ of $SE\frac{1}{4}$ 5 a.	$N\frac{1}{2}$ of $NE\frac{1}{4}$ of $SW\frac{1}{4}$ of $SE\frac{1}{4}$ 5 a.	$W\frac{1}{2}$ of $NE\frac{1}{4}$ of $SW\frac{1}{4}$ of $SE\frac{1}{4}$ 5 a.	$SW\frac{1}{4}$ of $SW\frac{1}{4}$ of $SE\frac{1}{4}$ 10 acres	$SE\frac{1}{4}$ of $SW\frac{1}{4}$ of $SE\frac{1}{4}$ 10 acres	$W\frac{1}{2}$ of $SE\frac{1}{4}$ of $SE\frac{1}{4}$ 20 acres	$E\frac{1}{2}$ of $SE\frac{1}{4}$ of $SE\frac{1}{4}$ 20 acres
		$SW\frac{1}{4}$ of $SW\frac{1}{4}$ of $SE\frac{1}{4}$ 10 acres		$A$ 2 $\frac{1}{2}$ a.	$B$ 2 $\frac{1}{2}$ a.				
				$C$ 2 $\frac{1}{2}$ a.	$D$ 2 $\frac{1}{2}$ a.				

Tract A is the  $NW\frac{1}{4}$  of  $SE\frac{1}{4}$  of  $SW\frac{1}{4}$  of  $SE\frac{1}{4}$   
 Tract B is the  $NE\frac{1}{4}$  of  $SE\frac{1}{4}$  of  $SW\frac{1}{4}$  of  $SE\frac{1}{4}$   
 Tract C is the  $SW\frac{1}{4}$  of  $SE\frac{1}{4}$  of  $SW\frac{1}{4}$  of  $SE\frac{1}{4}$   
 Tract D is the  $SE\frac{1}{4}$  of  $SE\frac{1}{4}$  of  $SW\frac{1}{4}$  of  $SE\frac{1}{4}$



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#### **B. Metes and Bounds Descriptions**

A general surveying practice has evolved which takes into consideration compass bearings and measurements along and between the boundaries of a property. The boundaries of a property being described in this manner are said to be described by metes and bounds. Metes mean measurements and bounds mean boundaries that include the features of the terrain in conjunction with compass bearings and distances.

The Point of Beginning of a metes and bounds survey description may be referenced by a distance and variance in degrees and minutes from a point established by Government Survey. The boundaries of such surveys are described by distance and bearing from the Point of Beginning, continuing in this manner until the boundary is closed by a distance and a bearing from some point to the Point of Beginning. **Exhibit 6.8** is an example of this type of survey.



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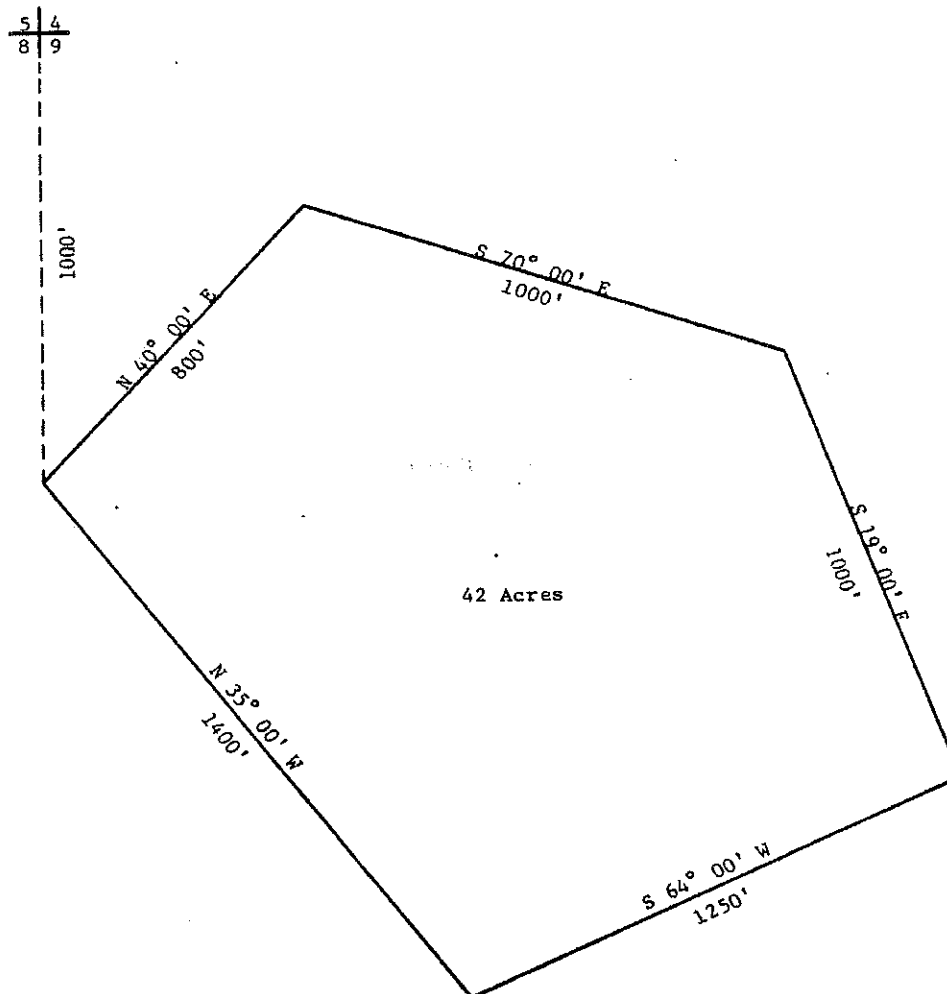
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#### EXHIBIT 6.8 METES & BOUNDS DESCRIPTION



Plot of a Metes and Bounds description showing proper designations of the several courses on an assessor's plat. Beginning at a point 1000 feet South of the section corner common to sections 4, 5, 8 and 9, Township 40 N, Range 30 W, thence N 40° 00' E 800 feet, thence S 70° 00' E 1000 feet, thence S 19° 00' E 1000 feet, thence S 64° 00' W 1250 feet, thence N 35° 00' W 1400 feet to the point of beginning containing 42 acres more or less.





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On encountering a property described by metes and bounds, the assessor may find it necessary to draw out the written description on paper in order to recognize the land described.

In drawing a map or identifying a parcel, a legal description should be approached in inverse order. By referring first to the township, range and section numbers the description is narrowed to the correct section. The rectangular survey description within the section should also be approached inversely. When the section of which the parcel is a part is found, then go to the beginning of the description and trace out the parcel according to the points and distances stated.

To illustrate, take the following example: The description reads: "Part of the SW1/4 of the NE1/4 of Section 6, Township 29, Range 37 described as follows: Beginning at a point on the quarter line 50 rods East of the center of the section, thence N 50 rods, thence E 30 rods, thence S 50 rods to the quarter line, thence W 30 rods to the point of beginning." To identify this parcel, the assessor will proceed as follows: Identify the township by the township and range line numbers, the section within the township by the section number (Section 6), the quarter of the section by the quarter last stated (NE1/4) in the description, and the quarter section within that quarter by the previous symbol (SW1/4). The location of the parcel has then been narrowed to this particular quarter-quarter section. At this point, the description may be outlined within these forty acres by locating the point of beginning, which is 50 rods East of the center of the section or 50 rods East of the SW corner of the quarter-quarter section. It is then apparent that the described land is a parcel 50 rods by 30 rods lying alongside the East line of the 40 acres in the SW corner of the quarter section, see **Exhibit 6.9**.



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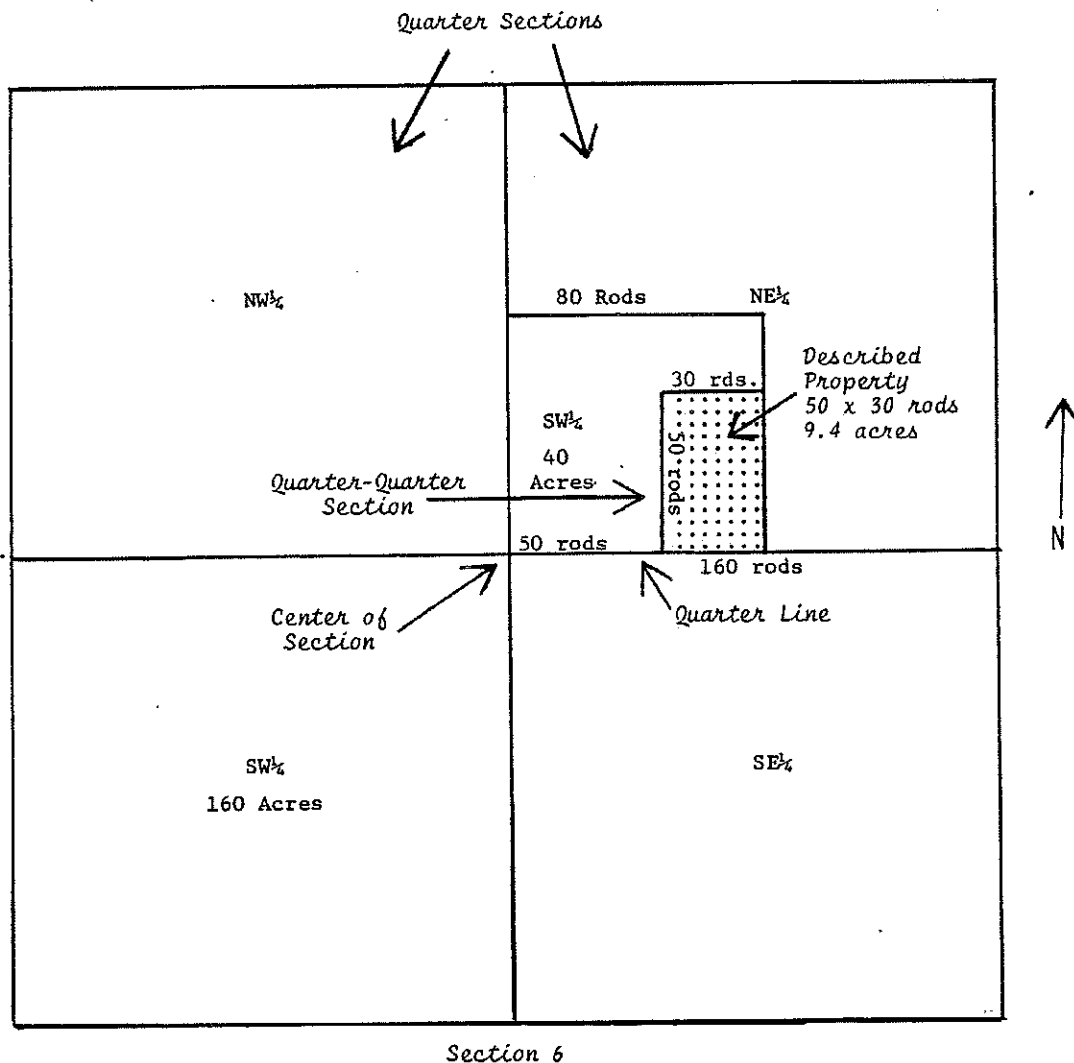
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#### EXHIBIT 6.9

##### METES AND BOUNDS DESCRIPTION

Part of the SW $\frac{1}{4}$  of the NE $\frac{1}{4}$  of Section 6, Township 29, Range 37 described as follows: Beginning at a point on the quarter line 50 rods East of the center of section, thence North 50 rods, thence East 30 rods, thence South 50 rods to the quarter line, thence West 30 rods to the P.O.B.





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#### **C. Lot and Block System**

This system applies to most urban communities. Land occupied by cities and other population centers generally has been surveyed into small tracts suitable for residential or business use with adequate allowance for thoroughfares. This system involves making a survey of the property and its various individual tracts (lots and/or blocks), preparing a plat (map) of the property and recording the plat in the office of the County Recorder. Although the plat actually contains a metes and bounds survey of the property to be subdivided, each lot and block is then numbered for identification and these numbers are entered upon the plat map of the tract. Copies of this plat are then filed in the County Recorder's office for permanent reference. The property then can legally be described by simple reference to the lot and/or block numbers as shown on the plat. Each plat is also given a name, such as "Oak Meadows Subdivision", to distinguish it from other recorded plats. The lot and block system is simple and convenient. The following is an example of this type of description in verbal form: "Lot 10, Block 13, of Laurel Slopes, a subdivision in the NE1/4 of Section 8, Township 48 North, Range 32 West in Jackson County, Missouri." A graphic example of this lot and block description is shown in **Exhibit 6.10**.



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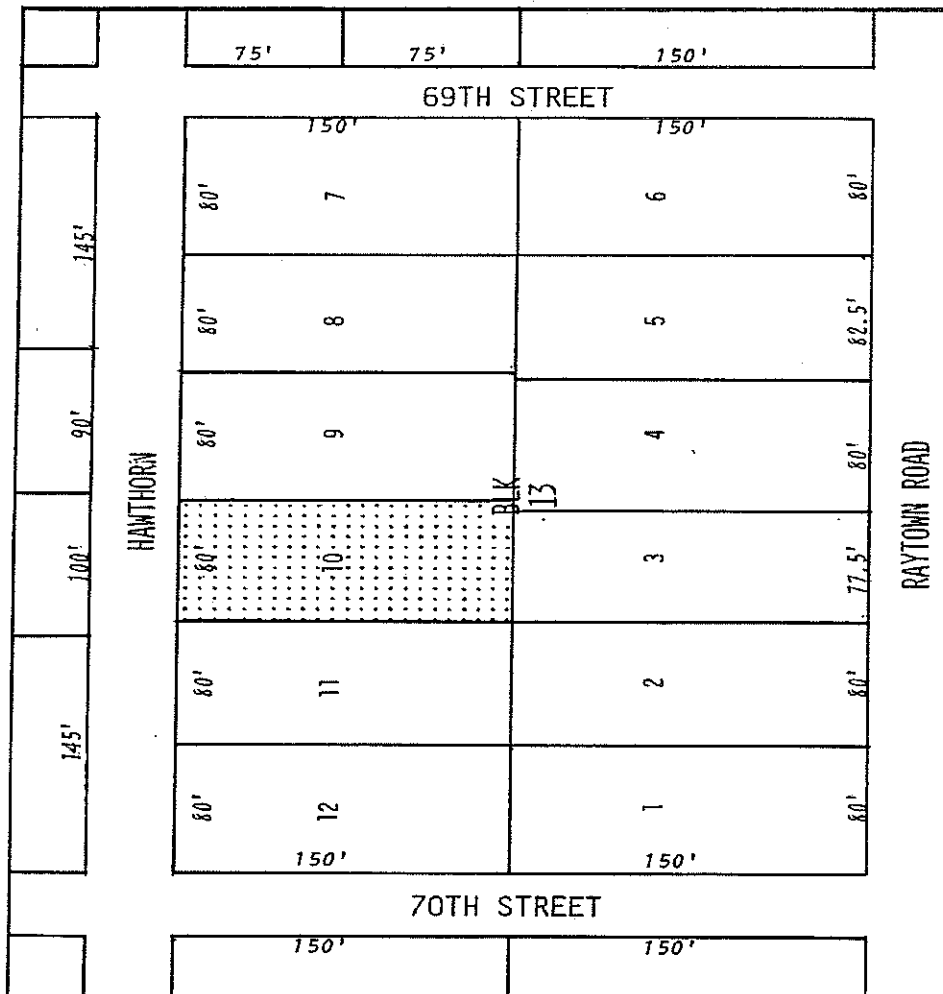
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EXHIBIT 6.10

LOT & BLOCK SYSTEM  
SUBDIVISIONAL DESCRIPTION



Lot 10, Block 13, of Laurel Slopes, A subdivision in the NE¼ of Section 8, Township 48 North, Range 32 West, in Jackson County, Missouri.



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## **2. Site Analysis - Valuation Factors**

In the mass appraisal of land, standardized procedures achieve a reliable indication of market value, and establish equalization between properties. A standard procedure or appraisal system should provide for a means of considering all of the factors, which affect the value of land.

The value of land is dependent upon location; accessibility to major highways, urban centers, recreation areas; planning; zoning; utilities; the area's economic and social environment and a number of other factors. Residential, commercial and industrial lands are all affected by these factors and a careful study and analysis of market data is necessary to properly value these parcels.

Residential land values are based on desirability, scarcity, surroundings, restrictions, utilities and location. The more desirable the location, the more valuable is the land. Desirability is stimulated by the factors of surroundings, deed restrictions, utilities and availability of transportation, shopping facilities, schools and houses of worship.

Commercial lands are investment properties, and the value of this type of land generally is based on the buying power of the public and the location of the land in relationship to this buying power.

Establishing industrial land values is a complex procedure. Such lands are subject to a highly specialized and intensive use and are wholly dependent upon each individual owner's requirement. Certain industrial properties rarely sell on the open competitive market as other than unimproved sites and substantial adjustments must be made for site improvements. Each type of industrial property requires special treatment in valuing because of its individual characteristics. A detailed study of each site is required as to use, topography, shape, utility, industrial capacity, zoning, location in relation to transportation, proximity of the labor market and accessibility to the customer market.

The value of land is derived from its ability to provide service to the owner. If properly improved, the value of improved land is basically a direct result of its current use, while the value of unimproved land results from its potential use. However, even improved land may have some element of potential in that at some future time it could be available for a different use. The value of a parcel of land can result from various factors.

### **A. Physical Factors**

These include factors of size, shape, topography, access, and location. Of the physical factors, location is the most important. To a certain degree, adverse features of size, shape, topography, and access can be corrected; however, an unfavorable location cannot be changed. The next consideration is whether or not the location is suitable for its intended use. Then, is the size sufficient for economically viable improvements? Is the access proper? Will an abnormal amount of work be needed to make the lot



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useful? Are the utilities adequate? These physical features must be considered in relationship to the intended use of the land and the effect they may have on its value.

#### **B. Economic Factors**

These factors include rent capability, population, availability of money, and other economic conditions within an area. Primarily, physical factors affect the value of land on an individual basis within an area, while economic factors will usually pertain to more than one parcel and in part define the neighborhood.

The economic forces resulting from population density, city growth, availability of financing, and the income level of an area must be considered. Also, consideration must be given to what degree that the zoning patterns will affect values. Any encroachment of inharmonious types of land uses that may affect the value of land must be considered when determining the "highest and best use" of the property.

#### **C. Governmental Factors**

Planning and zoning, deed restrictions, easements, and taxation are important factors. If spot zoning is prevalent and an over- or under-zoning of certain classifications is present, land values will be affected. Deed restrictions in relation to limitations, terms and renewals must be considered. Easements are reservations retained by grantors in the chain of title, and such easements against the property circumscribe the rights of subsequent owners. An easement for ingress or egress in favor of parties other than the owner tends to decrease a property's utility value. However, there may exist an easement attaching to adjacent property, which is beneficial to the ownership of the subject property. Rights-of-way, party wall agreements and other agreements, which run with the land, can restrict or enhance the land's utility and value.

Therefore, it is important for the assessor to have an understanding of all the legal factors that may have an effect upon the valuation of real property.

#### **D. Social Factors**

Those factors involving social considerations, which may affect the value of property, must be considered. Social factors include population density, income, area growth and individual attitudes. The meaning of these factors is subjective and difficult to isolate, and the assessor must recognize the impossibility of accurately measuring these effects upon land value.

Value is best measured by the actions of buyers and sellers in the marketplace. Thus, the objective of the analysis should be to identify factors, which are relevant and can be objectively measured. The



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extent to which these factors may have an influence upon value should be measured by the sales of comparable properties in the real estate market.

An examination of these factors (physical, social, governmental and economic) as they relate to residential, commercial, industrial and rural real estate is shown in **Exhibit 6.11**.



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#### EXHIBIT 6.11

#### FACTORS AFFECTING LAND VALUES

##### Physical Factors

- Residential:* Size and appearance of neighborhood; Topography; size, shape, and lot area; street pattern; soil and subsoil conditions; drainage; hazards and nuisances; utilities; conformity of houses; and proximity to supporting facilities.
- Commercial:* Street and traffic patterns; soil and subsoil conditions; drainage; parking; and nuisances.
- Industrial:* Size and shape of sites; street pattern; hazards; climate; utilities; waste disposal; and transportation facilities.
- Rural:* Topography; climate and weather; soil condition; irrigation; proximity to market; and availability of residential support facilities.

##### Economic Factors

- Residential:* Population growth, shifts, and declines; patterns of land use; amount of vacant land; new construction; employment of residents and family income; ownership-tenancy ratio; turnover and vacancy rates; price and rent levels; lender attitudes and policies; foreclosure rate; assessment equality; real estate taxes and special assessments; utility costs; and fire insurance rates.
- Commercial:* Population changes and direction of growth; compatibility of development; rents, vacancy factors, and property expenses; competing commercial neighborhoods; business failure and turnover rate; and lender attitudes and policies.
- Industrial:* Wage rates and union attitudes; cost of utilities; transportation costs; and taxes and special assessments.
- Rural:* Family income; ownership-tenancy ratio; rent levels; lender attitudes and policies; real estate taxes; land capabilities; and operating costs.

##### Governmental Factors

- Residential:* Municipality services; planning and zoning; building codes; development regulations; taxes and special assessments; and assessment policies.
- Commercial:* Municipality services; planning and zoning; building codes; development regulations; taxes and special assessments; and assessment policies.
- Industrial:* Municipality services; planning and zoning; building codes; development regulations; and assessment policies, taxes, and special assessments.
- Rural:* Planning and zoning; building codes; development regulations; taxes and assessment policies; and federal farm policies.

##### Social Factors

- Residential:* Characteristics of the residents; population densities; and crime rate.
- Commercial:* Population densities; crime rate; shopping attitudes; and characteristics of the shoppers.
- Industrial:* Population growth, shifts, and changes; population density; and the labor force.





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### **3. Site Analysis - Units of Comparison**

Since the appraisal of land is done by comparison, all land values are expressed in terms of unit prices. The unit price is, in effect, the unit of measurement relating to the size and/or shape of a parcel of land. It establishes a common denominator by which sale prices can be analyzed and adjusted to indicate the value of other land with similar characteristics. The purpose of the unit price concept is to translate sales prices into definable dollar amounts per unit, which can be applied uniformly toward the valuation of similar land.

#### **A. Standard Units of Measurements**

Standard units of measurement used in the appraisal of land are: (1) Front Foot; (2) Square Foot; (3) Acre; (4) Site or Lot and (5) Buildable/Rental Unit. The unit of measurement is generally selected upon the basis of the size, shape and use of a particular property or group of similar properties. However, the unit selected should be consistent with the unit of comparison customarily found in the local market for each category or class of property.

Therefore, through the analysis of market data, the assessor must develop standard unit prices for each class of property within a designated area. These base or standard unit prices can then be applied uniformly to land of a particular classification that is located within these indicated areas. The assessor must also devise a systematic procedure of adjusting the base unit price for nonstandard features which may be found in any particular parcel.

The purpose of the analysis is to: (1) establish the normal or typical unit; (2) by process of elimination, isolate the various value influencing factors and measure their influence on price, and (3) design, or adapt standard adjustment tables based on variables indicated by the local market. The depth tables, excess frontage tables and corner influence tables developed through this analysis are then applied throughout the valuation process. The analysis needs to cover a large number of bona fide sales in order to establish a reliable pattern of the degree to which the various factors affect value.

#### **1. Front Foot**

Use of the front foot as a unit of comparison is based upon the premise that frontage significantly contributes to value. Generally used in the appraisal of residential and commercial land where parcels are rectangular in shape and of a standard size, a Front Foot unit is a strip of land one foot in width that lays perpendicular to the street and continues to the rear of the parcel.

An example of the application of the front foot method is illustrated as follows: A downtown commercial lot has a foot frontage of sixty feet on Main Street and a depth of one hundred feet. By



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analyzing comparable sales, it has been determined that similar lots with a standardized one hundred foot depth are selling for \$1,000 per front foot. Therefore, the lot would have a value of \$60,000 (60 front feet x \$1,000 per front foot).

#### **2. Square Foot**

This unit of comparison may be used for small irregularly shaped parcels where frontage may not be the dominant factor in the valuation process. This method may be used to value residential, commercial and small industrial sites.

For example, the subject property is an irregular shaped tract consisting of 20,000 square feet. Comparable properties of similar size are selling for 50 cents per square foot. The indicated value of the subject site is therefore \$10,000 (20,000 square feet x \$.50 per square foot).

#### **3. Acre**

Acreage may be calculated by dividing the total square footage of a property by 43,560. This method is useful in the valuation of large residential tracts, rural and farm properties, large commercial tracts and large industrial sites.

An example of the acreage method is as follows: The subject property is a large vacant tract in a rural community and contains 300 acres. Comparison of the sales prices of similar properties in the area indicates a market value for this type of farmland to be \$500 per acre. The indicated value of this property is \$150,000 (300 acres x \$500 per acre).

#### **4. Site/Lot Unit**

The site/lot unit of comparison is used when the market does not indicate a significant difference in lot value even when there is a difference in lot size. This method is becoming more prevalent and is found in residential subdivisions such as cluster developments and planned-unit developments. Although uncommon, it may also be used in valuing industrial sites located in industrial parks.

#### **5. Buildable Unit**

This unit of comparison is used when the market indicates that a site is sold on a buildable-unit basis. The units buildable may be either a theoretical or actual number of units. The probable number of units to be built may be different from the theoretical number permitted by zoning ordinances. Consideration should be given to market demand, setback limitations, topography, height limitations and other limiting factors.



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For example, a subject site consists of 25 acres and zoning ordinances permit 10 units per acre. The site has no limitations. There is one comparable sale of a property consisting of 30 acres with an allowable density of 10 units per acre. The property was purchased for \$560,000 with the knowledge that because of topographical problems only 280 units could be built. On the basis of this information, the subject site value can be estimated at \$500,000.

***Comparable...Units buildable: 280 units (actually built)***

***Comparable.....Value/Unit:  $\$560,000 \div 280 = \$2,000$  per unit***

***Subject.....Units buildable: 25 acres x 10 units/acre = 250 units***

***Subject.....Land Value:  $\$2,000/\text{unit} \times 250 \text{ units} = \underline{\underline{\$500,000}}$***

***The unit price of \$2,000 per unit should be used because the developer purchased the property with the knowledge that only 280 units could be built.***

Generally speaking, the front foot unit of measurement is applied to uniformly shaped residential lots.

The square foot and acre units of measurement apply more to commercial property and larger tracts where size and the ability to accommodate larger structures is of primary consideration. The square foot unit will generally be used when appraising developed and undeveloped office, retail as well as industrial land, and irregularly shaped lots that cannot be priced on a front foot basis.

The acre unit also has application in the appraisal of large tracts suitable for some form of urban development and for large rural tracts.

The site or lot unit of measurement is appropriate in newer residential subdivisions where lots maintain equal utility, but fluctuate substantially in frontage, size and shape.

### **B. Standard Unit Adjustments**

#### **1. Excess Frontage Influence**

One area of consideration in determining standard lot size is the presence of excess frontage. This consideration rarely applies to commercial property, but it may be frequently encountered in residential areas. When various land values per front foot have been determined, the assessor must consider the dimensions of the various parcels. Excess frontage is the additional width of a lot beyond what normally represents the typical or ideal frontage for a building site in a particular area. The added frontage may not add equal value since the utility or usefulness of the wider lot does not increase proportionately.



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For example, you have two lots of various sizes. Lot A has a front footage of 100 feet and a depth of 200 feet which is the typical lot size for this area. Lot A sold for \$5,000 or \$50 per front foot. Lot B has a front footage of 125 feet and a depth of 200 feet and sold for \$5,500 or \$44 per front foot. The analysis of the two sales would show that the excess frontage contributed \$500 to the lot value of the wider lot or only 40% of the standard unit front foot value. Thus, if sufficient data were available to establish this as the basis for adjustment, your valuation of other over-sized lots would be as follows:

<i>Standard Lot...:</i>	<i>100 Front Feet</i>	<i>@</i>	<i>\$50 Front Foot</i>	<i>\$5,000</i>
<i>Excess Frontage:</i>	<i>25 Front Feet</i>	<i>@</i>	<i>(\$50 x 40%)</i>	<i>+ 500</i>
<i>Appraised Value:</i>				<i>\$5,500</i>

## 2. Depth Influence

Having given consideration to the effect of the frontage in determining lot values, it is also necessary to make adjustments for variations in depth. Depth influence recognizes the generally accepted premise that the front portion of a lot is more valuable than the portions of a site that is more distant from the street. It also recognizes the principle that the value added by increasing the depth of a lot is not in proportion to the increased depth. Mathematical studies, which reasonably approximate the relation of front foot values to the added depth, are tabulated into tables called depth tables. Depth tables were designed primarily for use in appraising residential lots. It should be kept in mind that these depth tables should not be used in areas where the front foot unit of comparison is not applicable to the market.

One method for deriving depth tables is the "4-3-2-1 Rule". This rule states that the first 25% of depth of the lot represents 40% of the total lot value, the second 25% of depth represents 30% of the value, the third 25% represents 20% of value and the fourth 25% represents 10% of the value. This is illustrated in **Exhibit 6.12**.

An additional method of compensating for additional depth or size considering the amount of a site's frontage would be a front foot to site size ratio. The ratio differences between sales can be compared to each other and when measurable differences are noted an adjustment based on market data can be made. The use of this type of analysis is most common for urban commercial land.

To check the need for depth adjustments from sales, several sold properties having differences in depth are selected and adjusted for all variations from the standard parcel except depth. The difference between the value indicated by the standard parcel and the adjusted sales price is an indication of the amount of depth factoring needed. **Exhibit 6.13** is an example of a depth-factoring table and **Exhibit 6.14** illustrates the application of these factors.

It should however be noted that in some instances when the additional depth of a site consists of steep



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terrain, flood hazard area or otherwise more or less “unusable” area, the additional land may have only minimal if any additional value.



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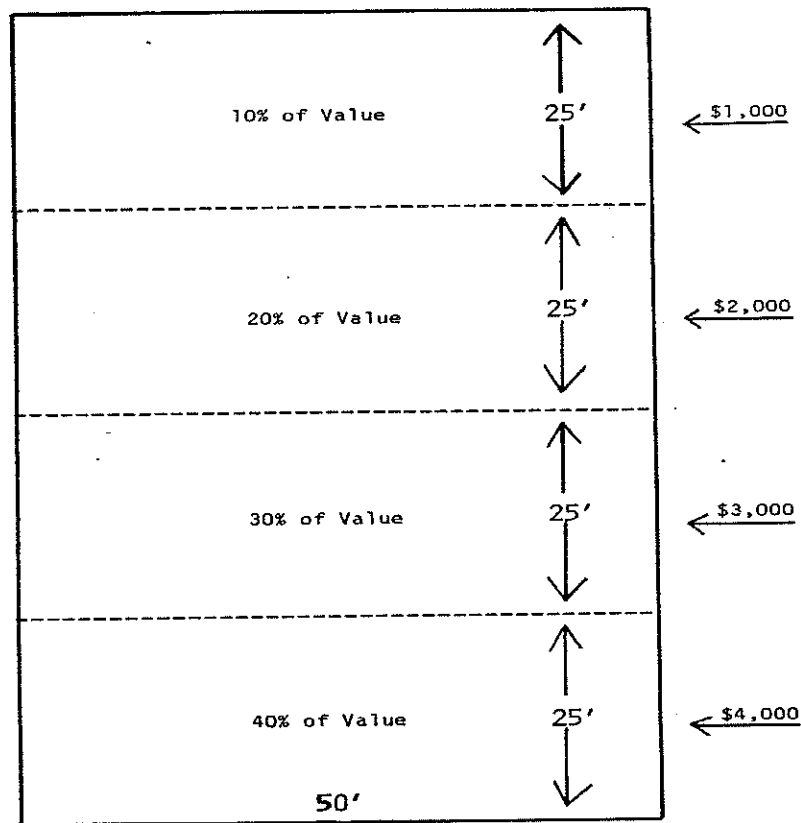
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#### EXHIBIT 6.12

##### COMPUTATION OF DEPTH TABLES "4-3-2-1 RULE"



The estimated lot value is \$10,000.00. The 4-3-2-1 rule assumes that the first 25 feet of depth is worth 40 percent, or \$4,000.00; the second 25 feet is worth 30%, or \$3,000.00; the third 25 feet is worth 20 percent, or \$2,000.00; and fourth 25 feet is worth 10 percent, or \$1,000.00.



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#### EXHIBIT 6.13

##### LAND DEPTH TABLES

The following table of percentage factors is designed to give a uniform method of adjusting the value per front foot, up or down, depending on whether the lot is more or less than the standard depth.

Depth in Feet	Factor 100 Ft. Standard	Factor 125 Ft. Standard	Factor 150 Ft. Standard	Factor 200 Ft. Standard
10	.32	.29	.26	.22
15	.39	.35	.32	.27
20	.45	.40	.37	.32
25	.50	.45	.41	.35
30	.55	.49	.45	.39
35	.59	.53	.48	.42
40	.63	.57	.52	.45
45	.67	.60	.55	.48
50	.71	.63	.58	.50
55	.74	.66	.61	.52
60	.78	.69	.63	.55
65	.81	.72	.66	.57
70	.84	.75	.68	.59
75	.87	.78	.71	.61
80	.89	.80	.73	.63
85	.92	.83	.75	.65
90	.95	.85	.78	.67
95	.98	.87	.80	.69
100	1.00	.90	.82	.71
105	1.03	.92	.84	.73
110	1.05	.94	.86	.74
115	1.07	.96	.88	.76
120	1.10	.98	.89	.78
125	1.12	1.00	.91	.79
130	1.14	1.02	.93	.81
135	1.16	1.04	.95	.82
140	1.18	1.06	.97	.84
145	1.20	1.08	.98	.85
150	1.23	1.10	1.00	.87
160	1.27	1.13	1.03	.90
170	1.30	1.17	1.07	.92
180	1.34	1.20	1.10	.95
190	1.38	1.23	1.13	.98
200	1.41	1.27	1.16	1.00
210	1.45	1.30	1.18	1.03
220	1.48	1.33	1.21	1.05
230	1.52	1.36	1.24	1.07
240	1.55	1.39	1.27	1.10
250	1.58	1.42	1.29	1.12
300	1.73	1.55	1.42	1.23
350	1.87	1.67	1.53	1.32
400	2.00	1.79	1.63	1.42
450	2.12	1.90	1.73	1.50
500	2.24	2.00	1.83	1.58



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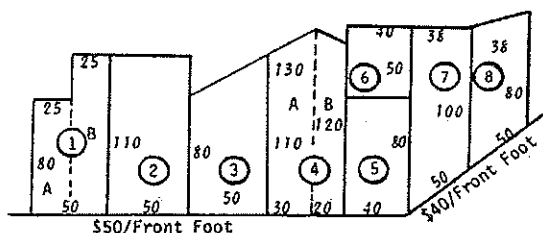
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### EXHIBIT 6.14

#### SAMPLE LAND COMPUTATIONS

STANDARD LOT DEPTH: 125 Ft.



Use 125' Depth Factor Table--Depth Factor x Unit Value = Adjusted Value  
Adjusted Value x Frontage = Total

LOT	FRONT-AGE	DEPTH	DEPTH FACTOR	UNIT VALUE	FR. FT. VALUE	TOTAL
#1	A25	80	80%	50	40	1000
	B25	110	94	50	47	1175
#2	50	110	94	50	47	2350
#3	50	95 av	87	50	44	2200
#4	A30	120 av	98	50	49	1470
	B20	125 av	100	50	50	1000
#5	40	80	80	50	40	1600
#6	40-R	50	22	50	11	440
#7	38 eff	115 av	96	40	38	1444
#8	38 eff	90 av	85	40	34	1292

#### EXPLANATION OF ABOVE COMPUTATIONS:

- #1 - Compute as two separate lots--1A plus 1B. Total Value of lot \$2,175.00.
- #2 - Regular lot. Frontage x Front Foot Value.
- #3 - Sides of lot unequal. Obtain average depth  $(80 + 110 \div 2 = 95)$ .
- #4 - Compute as two lots. Find average depth of each.  
(A)  $110 + 130 \div 2 = 120'$   
(B)  $130 + 120 \div 2 = 125'$  Total Value of lot \$2,470.00.
- #5 - Regular lot.
- #6 - Rear lot. Find depth factor for total depth from street  $(130'0$  subtract depth factor of front lot  $(80')$ , remainder is Depth Factor for rear lot.  $(102-80 = 22\%)$   $\$50 \times .22 = \$11$ .
- #7 - Depth Factor for average depth  $(115')$  times unit value times effective frontage.
- #8 - Same as No. 7.





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### **3. Corner Influence**

Another important problem in determining the value of properties needing special treatment is that of corner influence. Corner influence is the degree by which land value increases in a corner lot over and above the value of an otherwise comparable inside lot. The amount of influence would depend upon the prominence of each abutting street and the size of the lot.

As in the case of depth influence, the only way to measure corner influence is by sales analysis. Also, to be considered are the zoning laws and the typical building placement on corner lots.

Retail properties, particularly in the downtown areas, benefit the most from corner location due to the added exposure and access. The corner influence in residential areas may actually be a negative factor due to the possibility of greater special assessments, lack of privacy, increased noise and dirt, added care of curbs and sidewalks and a reduction in buildable lot area by building line limitations on both frontages.

### **4. Irregular Lots**

The utility of the lot may be seriously affected by its shape. The size or shape of a proposed building may be affected by setback requirements. The purpose of the adjustments for irregular shape is to convert the actual frontage of these parcels to an effective front footage for valuation by the front foot unit of comparison.

The most common rule used in developing an effective front footage value is known as the "65-35 Rule". It is based on the premise that a right-angle triangular shaped lot with its base on the street has 65% of the value of a rectangular lot having the same frontage and depth. It also assumes that a right-angle triangular lot with its apex (point) on a street has 35% of the value of a rectangular lot having the same dimensions. **Exhibit 6.15** illustrates the "65-35 Rule".



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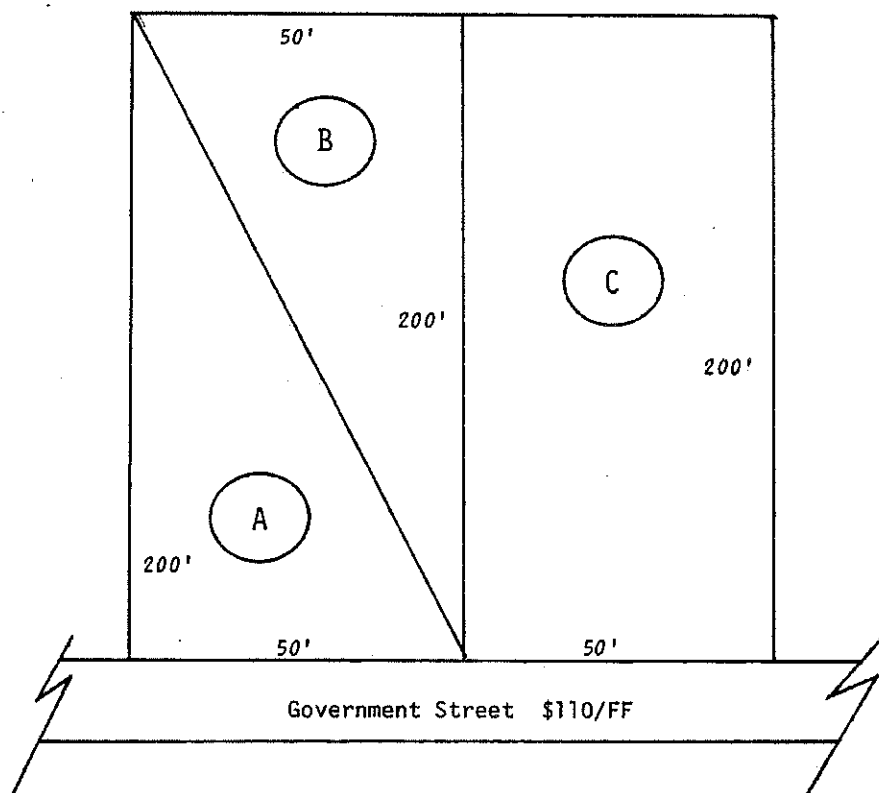
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#### EXHIBIT 6.15 LAND VALUATION - EFFECTIVE FRONT FOOTAGE "65 - 35 RULE"



Lot A: Right triangle with base on street use 65% factor.  
 $50\text{FF} \times 65\% \times \$110/\text{FF} = \$3,575$

Lot B: Right triangle with apex on street use 35% factor.  
 $50\text{FF} \times 35\% \times \$110/\text{FF} = \$1,925$

Lot C: Rectangular lot no factor used.  
 $50\text{FF} \times \$110/\text{FF} = \$5,500$



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The most common basic shapes and an explanation of how to calculate the effective footage and depth of each is shown in **Exhibit 6.16**. Once again, the “65-35 Rule” must be tested and proven in the marketplace.

Depth tables and corner influence tables are designed to provide uniform methods of adjusting the value per front foot, up or down, depending on whether a particular lot has more or less depth than the standard lot and to what degree it benefits from a corner location. It must be emphasized, however, that all facets of land valuation are based upon an analysis of the market in which a particular property is located, and the use of any tables must be consistent with the conditions of that market. Do not apply depth tables if the market makes no distinction in the prices paid for lots of varying depths, and do not apply corner influence tables if the market attaches no premium to corner locations.



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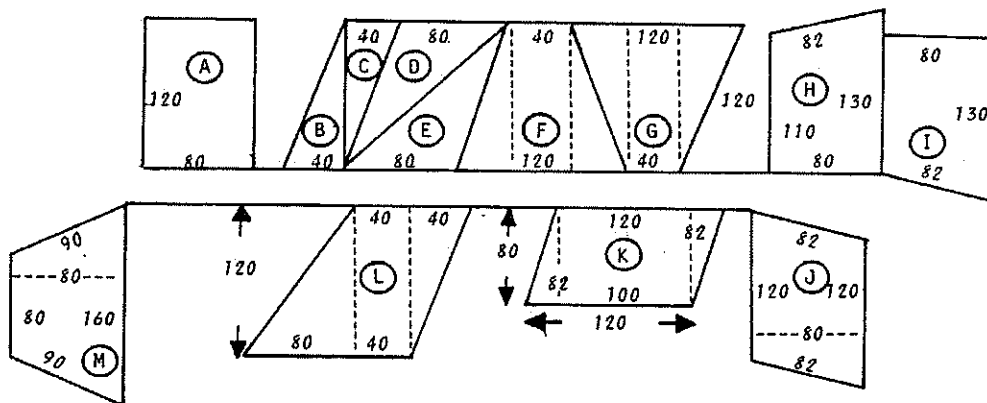
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#### EXHIBIT 6.16

##### LAND VALUATION BASIC SHAPES



- A. Rectangular...effective frontage = 80'; effective depth = 120'.
- B. Right Triangular w/base fronting the street...effective frontage = 65% of base =  $65\% \times 40' = 26'$ ; effective depth = perpendicular distance from base to apex = 120'.
- C. Right Triangular w/apex at the street...effective frontage = 35% of base =  $35\% \times 40' = 14'$ ; effective depth = perpendicular distance from base to apex = 120'.
- D. Obtuse Triangular w/apex at the street and base parallel to the street...effective frontage = 35% of base =  $35\% \times 80' = 28'$ ; effective depth = perpendicular distance from base to apex = 120'.
- E. Obtuse Triangular w/base fronting the street...effective frontage = 65% of base =  $65\% \times 80' = 52'$ ; effective depth = perpendicular distance from base to apex = 120'.
- F. Trapezoidal, w/parallel side fronting the street, and forming a rectangle (A) and two (or possibly one) right triangles (B)...effective frontage =  $40' + (65\% \times 80') = 92'$ ; effective depth = 120'.
- G. Trapezoidal w/parallel side fronting the street, and forming a rectangle (A) and two (or possibly one) right triangles (C)...effective frontage =  $40' + (35\% \times 80') = 68'$ ; effective depth = 120'.
- H. Trapezoidal w/parallel sides perpendicular to the street; effective frontage = 80'; effective depth =  $(110' + 130') \div 2 = 120'$ .
- I. Trapezoidal w/parallel sides perpendicular to the rear and oblique side fronting the street; effective frontage = 80'; effective depth =  $(110' + 130') \div 2 = 120'$ .
- J. Parallelogram with oblique side fronting the street...effective frontage = 80'; effective depth = 120'.
- K. Parallelogram with oblique sides intersecting the street...effective frontage = 120'; effective depth = 80'.
- L. Trapezoidal w/parallel side fronting the street, and forming a rectangular (A) and two right triangles (B & C)...effective frontage =  $80' + (35\% \times 40') = 94'$ ; effective depth = 120'.
- M. Trapezoidal with no right angles and an oblique side fronting the street...effective frontage = 80'; effective depth =  $(160' + 80') \div 2 = 120'$ .



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#### **4. Land Valuation**

A basic principle in the estimation of land value is that land should be valued as though free and clear, and capable of being put to its highest and best use as of the date of the appraisal. Thus, any penalty due to the imbalance between the land's highest and best use and its actual use is attached to the improvements in the form of obsolescence.

This concept is based upon the attitude and facts of the market. Land value is estimated by a comparison to recently sold vacant sites with similar physical characteristics, equal potential for development, and identical use-density under applicable zoning. In other words the market establishes the price of comparable, competitive vacant lots with the assumption that the purchaser will be prudent and erect a building that is in keeping with the Principle of Balance, and thus, develop the land to its highest and best use.

The sales comparison approach is the most reliable method of land valuation. It involves comparisons and assumes that market evidence is available. Unfortunately, good reliable sales data are not always available for use. For this reason, the assessor must resort to other methods of valuations. The five generally accepted methods are: sales comparison; extraction or allocation; subdivision development analysis; capitalization of ground rent and land residual capitalization. In the body of this manual the sales comparison, extraction and allocation methods for land valuation will be discussed. Subdivision development analysis, capitalization of ground rent and land residual capitalization is discussed in the 6.0 supplement that follows the body of this document.

#### **A. Sales Comparison**

This method involves the comparison of recent sales of similar land. Occasionally the comparable sales may be similar enough to a subject property that no measurable value difference is noted or in some instances lots (primarily residential use sites) are sold as a unit/lot value and the majority of the lots in a development may sell for the same price regardless of variations in physical attributes.

However when a significant difference between sale prices and physical attributes are noted adjustments are most likely justified and should be made. These adjustments can be quantitative or qualitative in nature. A quantitative adjustment is objective in nature and made on a dollar or percentage amount based on measurable differences for physical attributes of a property. Qualitative adjustments are subjective in nature and are mostly immeasurable in the market place but a difference in value is perceived. The most desirable adjustment method is the quantitative method which considers differences in comparable sales that can be measured or counted and can be adjusted for. In applying the Sales Comparison Approach, the assessor should seek comparable sales that have the highest degree of similarity to the parcel being appraised. Similarity involves consideration of the



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following: (1) the date of the sale; (2) location; (3) size and shape; (4) zoning; (5) topography; (6) utilities and (7) highest and best use. This numbered list is not necessarily assembled in order of importance.

The basic assumption of the Sales Comparison Approach that considers quantitative adjustment is that if two sites were identical in all respects, a current bona fide sale of one lot would signify the value of the other for appraisal purposes. However, the ideal comparison rarely exists, and adjustments must be made for differences between the land, which has sold, and the land, which is being appraised. Adjustments should be made only for measurable variations (those variables that have a measurable effect on value). The important thing to remember is that the total adjustment was developed through a series of individual adjustments derived from an analysis of the elements in the market. There are various methods of making adjustments: (1) component dollar adjustments; (2) percentage adjustments and (3) factor adjustments. Component dollar adjustments and percentage adjustments are adjustments that are added to or subtracted from the sale price of the comparable properties; while the factor adjustments are multiplied. The important thing to remember in making these adjustments is that adjustments are always made from the comparable property to the subject property.

#### METHODS OF ADJUSTMENT

<u>Sales Price</u>	<u>Location</u>	<u>Physical</u>	<u>Time</u>	<u>Net Adjustment</u>	<u>Adjusted Sales Price</u>
\$5,000 (a)	- 10%	+ 15%	+ 5%	+ 10%	\$5,500
\$5,000 (b)	-\$500	+\$750	+\$250	+\$500	\$5,500
\$5,000 (c)	.90	1.15	1.05	1.087	\$5,435

(a) *Plus or minus percentage adjustments*

(b) *Component dollar adjustments*

(c) *Percentage factoring adjustments*

A sample summary chart on which the derivation of a market value utilizing quantitative adjustment for a residential site is illustrated is shown in **Exhibit 6.17**.

As mentioned earlier adjustments can also be qualitative in nature. These adjustments are typically made as plus (+) or minus (-) adjustments and reflect the superiority or inferiority of a sale when compared to the subject property. Again it should be noted that this type of adjustment is subjective in nature and is due to perceived value difference between a sale and a subject property due to differences in physical attributes. After qualitative adjustments are made and considered the final adjusted accumulative indicator could be equal (=), positive (+) or negative (-). Although this method is not as



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concise as the quantitative method it can be helpful in estimating a value range for a property by comparing the number on adjustments made for the sales and the notation (=, +, -) of the final adjustments as shown in **Exhibit 6.18**.



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#### EXHIBIT 6.17

##### SALES COMPARISON ANALYSIS

Property Under Appraisalment	Sale A	Sale B	Sale C	Sale D
Sale Date	3/1/63	3/1/62	1/4/63	3/1/64
Sales Price	\$3,500	\$3,500	\$2,000	\$2,200
Frontage	86 Ft.	78.71 Ft.	45 Ft.	55 Ft.
Sales Price per Fr. Ft.	\$44.47	\$44.47	\$44.44	\$40.00
Depth	106 Ft.	96 Ft.	125 Ft.	125 Ft.
Location	(Average)	(Average)	(-5%)	(-5%)
Land Pattern	Better	Better	Better	Same
Other	(-5%)	(-5%)	(-5%)	-----
Net Adjustment	Inside	Inside	Inside	Inside
Time Factor	(+3%)	(+3%)	(+3%)	(+3%)
Adjusted Price per Fr. Ft.	None	None	None	None
	(-2%)	(-2%)	(-7%)	(-2%)
	None	None	None	None
	\$43.58	\$43.58	\$41.33	\$39.20

*Conclusion: After comparing the subject site with the above market sales and considering the differences in time, size, shape, location, and desirability, it is the appraiser's opinion the subject site is more nearly comparable to Sales D, which needed a minimum of adjustment. The other three sales also support Sale D, but are located farther from the industrially zoned property, south of the subject lot. For this reason, more weight was given Sale D.*

*It is the appraiser's opinion the front foot value applicable to the property under appraisalment is \$40.00 per front foot, 86 feet @ \$40.00, or \$3,440.00.*

##### Land Sale A

Sold March 1, 1963. The lot size is 78.71 x 100 x 48.85 x 92.25 feet. It sold for \$3,500 and develops a front foot price of \$44.47. It is legally described as follows: Lot 7, Block 1, Bethwood Terrace Subdivision.

This is an irregular-shaped lot located approximately four blocks north of the subject property, and it has 78.71 feet of frontage on Second Avenue, south. It is in the same neighborhood with like surroundings, except it is free of the industrial zoning influence which affects the property under appraisalment. This lot is high and dry and has been improved with a single-family residence since the time of sale. It was a free market transaction and, except for the industrial zoning influence, is considered comparable to the subject property.

##### Land Sale B

Sold March 1, 1962, lot size is 78.71 x 92.25 x 48.85 x 100 feet. This property sold for \$3,500, reflecting a front foot price of \$44.47. Legal Description: Lot 1, Block 8, Bethwood Terrace Subdivision.

This lot is also irregular in shape and located approximately four blocks north of the subject property. It is adjacent to the lot described in Land Sale A. It has 78.71 feet of frontage on Second Avenue, South, and is also a high and dry lot, located in the same general area as the lot under appraisalment. Like Sale A, it is free from the industrial zoning influence which has affected the subject property. The purchaser has since improved the lot with a single-family residence. It was a free market transaction and, except for the industrial zoning influence, is considered comparable to the site appraised.

##### Land Sale C

Date of sale, January 4, 1963. Lot size, 45 x 125 feet. Sales price, \$2,000, indicating a front foot price of \$44.44. Legal description: Lot 3, less the East 7 feet thereof, and the East 7 feet of Lot 4, Block 3, Woodstock Subdivision.

This property is located approximately five blocks west of the one under consideration and in a newer area, which is developing rapidly with single-family homes in the \$13,000 to \$16,000 price range. It has no undesirable influences. This sale was a free market transaction and, except for the absence of the industrial zoning influence, is comparable to the subject site.

##### Land Sale D

Sold May 1, 1964. Lot size, 55 x 125 feet. Sale price \$2,200 or \$40 per front foot. Legal description: East 33 feet of Lot 12 and the West 22 feet of Lot 13, Block 10, West Central Avenue Subdivision.

This site is located some two and one-half blocks east of the subject property and is very similar. It has the same physical characteristics and also suffers from the industrial zoning directly across the street to the south.





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#### **B. Extraction or Allocation**

This method involves determination of the contributory value of the improvements as part of the total sales price of an improved property. The balance of the sales price is attributable to the land.

When a particular area has been fully developed and there are no recent sales of vacant lots, you may either apply land values established by comparable sales in similar neighborhoods or extract the value of the land from current improved property sales. The procedure involves inspection, listing and grading the quality of the improvements and applying the appropriate cost and depreciation schedules to arrive at the depreciated value of the structure at the date of sale. By deducting the depreciated value of the improvements from the sales price of the entire property, you obtain the extracted or allocated value of the land as demonstrated below:

<i>Sales Price .....</i>	<i>\$45,750</i>
<i>Replacement Cost New:</i>	<i>\$52,500</i>
<i>Depreciation @ 30% ..:</i>	<i><u>-15,750</u></i>
<i>RCNLD .....</i>	<i>+ <u>36,750</u></i>
<i>Extracted Land Value:</i>	<i><u>\$ 9,000</u></i>

This method requires a relatively high degree of uniformity and proficiency on the part of the assessor in applying cost and depreciation factors to the improvements.

Under the concept of Allocation, a portion of total property value may be assigned to the site. Land, as one of the agents of production, should have a logical value relationship to total property value. Typical relationships are established from sales of improved properties. To establish proper ratios the following are usually considered: (1) site value in previous years; (2) land-building ratios in similar neighborhoods and (3) analysis of new construction on similarly classified sites. To illustrate, let's estimate that the value of the land would represent about 20% of the total property value in a given residential area. Therefore, this allocation is 4:1; there are four parts building to one part land. If the total property value were \$40,000, the value of the site in this example would be \$8,000 (\$40,000 x 20%).

Both the extraction and allocation methods are variations of the market data approach. Therefore, these methods require the use of a sufficient number of recent sales to establish a trend or pattern of allocated/extracted land values. An illustration of the method used to extract and apply an allocation rate is shown in **Exhibit 6.18**.



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#### EXHIBIT 6.18

##### LAND VALUATION

Extraction ON & ALLOCATION METHOD

Extraction ON OF AN ALLOCATION RATE

Sale	Sales Price		Known Land Value		Abstracted Rate
Lot A	\$ 27,500	÷	\$ 4,700	=	17.1%
Lot B	29,000	÷	4,650	=	16.0%
Lot C	25,500	÷	4,600	=	18.0%
Lot D	28,000	÷	4,750	=	16.9%

Conclusion: Land Allocation Rate = 17%.

*Sales prices represent actual sales of improved properties from a comparable neighborhood where actual land values are known.*

##### APPLICATION OF ALLOCATION RATE

Sale	Sales Price		Allocation Rate		Land Value
Lot 1	\$ 30,100	x	17%	=	\$ 5,117
Lot 2	29,500	x	17%	=	5,015
Lot 3	30,000	x	17%	=	5,100
Lot 4	29,750	x	17%	=	5,058

Conclusion: Estimated Land Value = \$5,100

*Sales price represent actual sales of improved properties located in the same neighborhood where no vacant land sales occurred.*



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It is understood that assessors cannot make individual appraisals of each parcel in the taxing district by the various methods outlined in this chapter. However, they can and should use any applicable technique in establishing land values in several areas within the district depending on the amount of market data available. By applying applicable procedures to a reasonable extent in all areas, the assessors can utilize patterns of land value to estimate land value in various neighborhoods.

### 6.2 THE COST APPROACH

The cost approach is probably the most widely utilized method of estimating market value by assessors. In appraising real estate for tax purposes it is essential to value like properties in a consistent manner. It has been found that the most efficient manner in which to accomplish this end is through the use of the cost approach to value. The cost approach to value possesses two main characteristics, which contribute to its wide acceptance by assessors; the necessary information is available on all properties and the cost approach can be applied to all properties.

The data required for the cost approach is primarily of a physical nature and, as such, is more easily collectable by the assessor. Constructing an adequate comparable sales and income file may be a difficult task, requiring a significant outlay of resources. This may be especially true in the initial collection phase for a jurisdiction, which has not attempted the compilation of this data previously due to the reluctance on the part of homeowners and businesses to document the information. However, an assessor can always measure a property, and through visual inspection determine the class and quality of construction and the materials used, thereby obtaining the information necessary for calculation of the cost approach to value. The cost approach does require the use of market information to establish a value estimate. This market information is used in developing the depreciation schedules and in the final field review of the value estimates.

The cost approach may be applied to all improved properties. Many properties are rarely sold and some types of properties do not yield calculable money incomes; therefore, the information upon which to base the market and income approaches is not available. The cost approach has the advantage of universal application to all types of property regardless of the availability of other valuation data. In ad valorem tax valuations it may be the principal and sometimes sole approach used for some types of properties.

In a reappraisal program, the assessor is restricted by budgetary and time constraints in an effort to scrutinize individual parcels. It is neither feasible nor necessary that a narrative appraisal be prepared for every parcel within the taxing jurisdiction. Consequently the assessor must engage in mass appraising. The cost approach conforms to the environment necessitated by the mass appraisal process. The assessor must have some record of the properties being assessed. That information is generally sufficient to calculate a cost approach. The cost approach meets the assessor's requirement for a



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system of valuation for a large number of properties within a singular time frame, and the use of consistent costing schedules retains uniformity between individual properties. The cost approach provides a simple, accurate and rapid method of determining uniform and equitable valuations on a quantity basis.

#### **1. The Cost Concept**

The cost approach is based upon the Principle of Substitution; the assumption is that the value of a property is equal to the cost of the acquisition of an equally desirable substitute property. In this case, the process of acquisition involves the replacement or reproduction of the substitute. The cost approach is variously defined as either a method of estimating the market value of the improvements alone, or a method of estimating the market value of a property. The difference, of course, is the addition of the land value estimate. For the purpose of this Manual, we will define the cost approach to include the estimation of land value, thus resulting in an indication of value for the entire property. As will be seen later all elements of the cost approach, including land value, are derived from the market; therefore, the resultant values are indicative of market behavior. Thus defined the cost approach consists of estimating the value of the site as if vacant and available for development at its highest and best use to which is added the current replacement cost of the structure less all-applicable accrued depreciation.

The term used above was Replacement Cost and, although sometimes used as such, is not synonymous with Reproduction Cost. Reproduction cost is the current cost to construct as nearly an exact replica of the property under appraisal as modern materials and equipment will permit. An exact replica is an identical structure with the same materials, construction standards, design and quality of workmanship. Replacement cost is the current cost to construct a structure similar to the one under appraisal, identical as to utility but of current design with presently available materials. In the mass appraisal process, most cost estimates tend toward replacement cost through the use of comparative cost manuals. The use of replacement cost tends to lessen the requirement of estimating functional obsolescence, and therefore, the distinction is most important in the consistent determination of accrued depreciation.

The "cost" referred to in the cost approach refers to all expenditures necessary to put the property in the hands of the user or purchaser. This includes **direct costs**, **indirect costs**, and **entrepreneurial incentive**. Direct costs include such items of expenditure as labor, material, site Improvements, utility service, and equipment rental. Examples of indirect costs include architectural fees, legal fees, interest on construction loans and builders' overhead and profit. Entrepreneurial incentive is "the amount an entrepreneur expects to receive for his or her contribution to a project".<sup>35</sup> Entrepreneurial profit is the realization of the incentive, and may be greater than, equivalent to, or less than the entrepreneur's expectation, or could reflect a loss. This may be measured where the market value and all

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<sup>35</sup> "The Appraisal of Real Estate", 14th Edition, Published by the Appraisal Institute



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developmental costs of a project are known. The entrepreneurial profit is the remainder, if any, after the direct and indirect costs of development are subtracted from market value of the property. There is typically a variance in entrepreneurial incentive or profit from property type to property type, and may be intangible in the case of properties developed for owner-occupancy.

It is quite often erroneously stated that the cost approach sets the upper limit of value. A more correct statement would be that the reproduction or replacement cost new would tend to set the upper limit of value. Certainly, the cost approach, like the other two approaches to value, is most reliable when the least amount of subjective judgment is exercised and when a site is improved with a newer structure representing the highest and best use of the land. When the cost approach is applied to an older structure the judgmental factor of depreciation comes into play. If the depreciation estimate is too high the indication of value for the property will be too low, even though the calculation of the cost new estimates itself was correct. However it is common for the depreciation estimate to be inadequate in the provisions made for functional and economic obsolescence and, in such a case, the resulting estimate of market value for the property would be too high. It is this failing on the part of the appraiser that has caused the misconception, not the inherent properties of the cost approach.

#### **A. Methods of Cost Estimating**

There are three commonly used methods of estimating improvement costs. They are the comparative unit method, the unit-in-place method and the quantity survey. The **comparative unit method** is the easiest and fastest method to apply, and is the most widely used in a mass appraisal program. A total cost for the structure is arrived at by comparison with the known cost of a similar structure reduced to a unit of comparison. All direct and indirect costs, and entrepreneurial incentive/profit are totaled and the sum is divided by a workable measurement such as ground floor area, total floor area or volume that results in either a cost per square foot or a cost per cubic foot. The cost per square foot is by far the most widely used. Occasionally, it is applied to the ground floor area - that area encompassed by the exterior walls of the ground floor. For structures greater than one floor, the cost per square foot is correspondingly increased. Items not included within the ground floor area such as porches, garages, etc. are separately calculated.

The cost per cubic foot may be used in warehouses and industrial type buildings where ceiling height becomes an important factor in the cost of construction. However the calculation of cost estimates for these types of structures is not limited to the cubic foot method since percentage adjustments for story height can be used if square footage is used. The cost figures to be used in the comparative methods can be either developed internally or a commercially published cost manual may be utilized. In either case the costs involved in the construction of a number of structures of a similar type are researched and broken down into a unit of comparison with a schedule developed for each of the various types of structures. The representative cost is then applied to all structures typical to the schedule. Features



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particular to an individual structure are then accounted for by lump sum or percentage adjustments. The use of typical cost tends to produce replacement cost estimates.

The use of published cost schedules is widely accepted. The goal of developing locally representative costs, which is the purpose behind total development of a schedule in-house, may be adequately accomplished with the expenditure of fewer resources by merely developing local multipliers. In the calculation of cost new most cost schedules make two final adjustments by using percentage multipliers - the current cost multiplier and the local multiplier. The current cost multiplier accounts for changes in direct and indirect costs from the date the schedule was developed to the effective date of the appraisal. The local multiplier adjusts the typical costs represented in the schedule to a particular locality. For the development of these factors the assessor as an appraiser once again returns to the market. From a current sale price of a property containing a newly constructed structure the land value is subtracted. The resultant figure representing the sum of all direct and indirect costs for that particular structure is compared to the cost of the structure calculated from the manual. From a number of such comparisons the assessor may find, for instance, that an average quality ranch house in a particular locality can be constructed for 94% of the cost represented in the manual. The use of internally developed local multipliers alleviates the complaint sometimes voiced about the use of nationally published cost schedules. This analysis is also inclusive of entrepreneurial profit/incentive, thus a market-derived multiplier adjusts for time, location, and entrepreneurial incentive/profit.

The **unit-in-place method** expresses the summed cost of individual structural components such as foundation, walls, roof, plumbing, etc., on the basis of individual unit measurements such as area, volume or linear feet. All direct and most indirect costs of a completed unit area of a structure are computed. For example the in-place cost of a square foot of outside wall of a frame structure would include the interior wall finish, studding, sheathing, building paper and outside shingles or siding and the indirect cost required to construct the finished product. The cost of the exterior wall is then calculated by multiplying the number of square feet of wall area by the cost per square foot. A similar calculation is made for the other individual structural components and the results summed along with any lump sum or percentage adjustments to arrive at an estimate of cost new. Most manuals, which publish comparative cost schedules, also include in-place or segregated cost schedules. The calculation of cost new utilizing these schedules is generally found to be too time consuming for efficient use within a mass appraisal program. However there are always individual buildings which do not lend themselves readily to classification within the comparative cost schedules. For these unusual or special purpose properties, the segregated cost method may be used.

The most detailed and accurate of the cost estimating methods is the **quantity survey technique**. The quantity survey method entails the complete itemization of all material, equipment, labor and indirect costs required to assemble the components into a finished product. This is the method utilized by a building contractor prior to bidding a construction project. While it produces the most accurate cost



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estimate the time and expertise involved make the use of this technique unfeasible by the assessor in a mass appraisal program. It can however be valuable to the assessor for the calculation of benchmarks for locally developed cost schedules and multipliers.

Although not one of the cost estimating techniques generally discussed, one approach that may be of some value to the assessor in a mass appraisal program is "trending". Trending is nothing more than the adjustment of a historical cost to reflect a present day expenditure. Publicized cost surveys usually include a section listing by year and type of construction the multipliers that can be used to trend or update historical costs. The assessor will find the use of trending most beneficial in developing a cost for special purpose properties, which are no longer, constructed in the same manner. However, functional obsolescence is exhibited by virtue of the fact that the structure would no longer be constructed as it once was and care must be exercised in this area when trended historical costs are used.

#### **B. Depreciation**

Depreciation may be simply defined as a loss in value from any cause. Depreciation is only used in the cost approach and is the difference between the current replacements or reproduction cost of a structure and the current market value of that structure. Depreciation accrues from the completion of the structure to the date of an appraisal and should not be confused with future depreciation or the recapture of the wasting asset as utilized in the income approach. The first of these is a factual matter; it is a loss in value, which has accrued and is measurable. The second is a theoretical concept to provide in the income stream for the return of the investment in the wasting asset. Land is not a wasting asset, while the structural component of a property may deteriorate to the point it is no longer useable. The land will remain as always available for some use and, therefore, depreciation is only figured on the building component of the property. Depreciation is a measure of the diminished utility experienced by a structure in its present condition and circumstances in comparison with the utility it would have as a new improvement representing the highest and best use of the site.

There are three types of depreciation: physical deterioration, functional obsolescence, and economic obsolescence. The resulting loss in value may be attributed to any one or more of the above causes. Although it is not necessary to segregate and individually measure the resultant loss in value from these causes as prescribed by the techniques of depreciation measurement, the assessor should be aware of their existence and effect to ensure that all forms of depreciation have been properly accounted for.

**Physical deterioration** is the loss in value due to the physical wear and tear experienced by the structure. It is a reflection of age and the actions of the elements on the building. It is a loss in the physical ability of the structure to withstand normal use. Physical deterioration may be classified as



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either curable or incurable. Curable physical deterioration is sometimes referred to as deferred maintenance. It involves those physical defects of a structure which a prudent buyer would consider correcting upon purchase and who's cost to cure would be directly reflected in the increased market value of the property. Thus, curable physical deterioration concerns observable physical defects that would be economically viable to cure. Examples of curable physical deterioration would include such repairable or replaceable items as a new porch, painting, broken windows, etc. The amount of the loss in value due to curable deterioration is equal to the estimate of the cost required to cure the existing physical defect.

Incurable physical deterioration is deterioration where the cost to cure will exceed the return to be received from the increased marketability of the property. Incurable deterioration is generally thought of as applicable to, but not necessarily limited to, the main structural components of the improvement, i.e., the foundation, roof support structure, wiring, etc. The test as to whether deterioration is curable or incurable is, however, economical not structural. If it would be economically prudent in the marketplace to revive a structure, then the deterioration is curable; if not, it is incurable. Incurable physical deterioration is measured by the remaining contribution of that portion of the structure to the economic life of the structure. **Exhibit 6.19** illustrates an example of methods used to estimate both curable and incurable physical deterioration.





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#### EXHIBIT 6.19

#### PHYSICAL DETERIORATIONS

##### Curable Physical

Exterior Painting	\$ 1,500
Replace Broken Windows	70
Total Curable Physical	<u>\$ 1,570</u>

##### Incurable Physical - Short-lived Components

Component	Replacement Cost New	Total Life Expectancy	Effective Age	% Depreciation	Depreciation
Floor Covering	\$ 1,270	10	3	30%	\$ 380
Plumbing Fixtures	700	20	8	40%	280
Heating Unit	3,450	15	8	53%	1,830
Electrical Fixtures	500	20	8	40%	200
Roof Cover	590	20	12	60%	350
Water Heater	215	8	4	50%	110
Built-in Appliances	865	12	8	67%	580
	<u>\$ 7,590</u>				<u>\$ 3,730</u>

##### Incurable Physical - Long-Lived Components

Total Structure Replacement Cost New (1,000 Sq. Ft. x 24.41)	\$ 24,410
Deduct Allowance For:	
(1) Curable Physical Deterioration	\$1,570
(2) RCN Short-Lived Components	<u>7,590</u>
Total Deductions	<u>9,160</u>
Replacement Cost New--Long-Lived Items	\$ 15,250
Deterioration Rate:	
(1) Total Economic Life = 50 years	
(2) Effective Age = 10 years	
EA ÷ TEL = 10 ÷ 50	.20
Total Incurable Physical--Long-Lived	<u>\$ 3,050</u>

##### Summary of Accrued Physical Deterioration

Curable	\$1,570
Incurable--Short-Lived	3,730
Incurable--Long-Lived	<u>3,050</u>
TOTAL ACCRUED PHYSICAL DETERIORATION	<u>\$8,350</u>



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**Functional obsolescence** is the loss in value experienced by a structure due to its inability to perform efficiently the function for which it is presently used. Functional obsolescence is a result of inherent design deficiencies within the structure. Functional obsolescence may be either the result of functional inadequacy or super adequacy. A functional inadequacy would be a deficiency in design, which is reflected in the marketplace. For instance, an eight-bedroom house with one bathroom would not be worth as much as an eight-bedroom house with four bathrooms of the same size and quality. Functional super adequacy is the result of a structural component design not essential to the present utilization of the improvement. A six-story office building constructed with a foundation adequate for twelve stories in contemplation of future expansion represents a functional superadequacy.

Functional obsolescence, like physical deterioration, may be either curable or incurable. Also, like physical deterioration, the test is the economic viability of the alteration. If an increase in market value would justify the construction of additional bathrooms, the functional deficiency would be curable; if not, it would be incurable. Functional super adequacy is rarely curable. Curable functional obsolescence is measured by the cost to cure the functional deficiency. Incurable functional obsolescence is either measured by direct comparison in the marketplace or the capitalization of rent loss. Direct comparison in the marketplace would involve the comparison of two or more otherwise comparable sales, and the resultant difference in sales price would represent the measure of functional obsolescence. For example, an analysis of comparable sales reveals that, within the marketplace, typical buyers require that a four-bedroom home have two baths although the cost of installing an additional bath exceeds the value returned. Comparison of a house with two baths, which sold for \$42,500, with an identical house containing only one bath, which sold for \$41,300, reveals a loss in value as demonstrated below:

<i>House - 2 baths</i>	<i>\$42,500</i>
<i>House - 1 bath</i>	<i>- 41,300</i>
<i>Loss in value attributable to bath</i>	<i><u>\$ 1,200</u></i>

In the capitalization approach the difference in market rentals is capitalized to determine the loss in value. The difference per month in rent, due to the functional deficiency, multiplied by the GRM (Gross Rent Multiplier) indicates loss in value due to the functional obsolescence. Suppose that in the neighborhood, houses generally sold for 120 times the monthly rent indicating a GRM of 120. The appraiser ascribes a market rent of \$200 per month to a house with two baths and \$190 per month for a house with only one. The calculation of functional obsolescence is as follows:



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<i>Monthly rental - 2 baths</i>	<i>\$200</i>
<i>Monthly rental - 1 bath</i>	<i>- 190</i>
<i>Rent Loss</i>	<i>\$ 10</i>
<i>GRM</i>	<i>x 120</i>
	<i>\$ 1,200</i>
<i>Functional obsolescence - 1 bath</i>	<i>\$ 1,200</i>

Physical deterioration and functional obsolescence relate to a loss in value due to the condition, construction, and design of the structure itself. **Economic obsolescence** refers to a loss in value from influences outside the boundaries of the property. A house, which cost \$25,000 to construct on a barely passable gravel road may not be worth the same as a house that cost \$25,000 to construct that is located on a blacktop road one mile from town. A nice home with a factory immediately adjacent to it could suffer immediate economic obsolescence. Economic obsolescence is generally considered to be incurable. As it arises from factors outside the boundaries of the property, it is rarely feasible to move the structure or to remove the cause of the economic obsolescence.

The loss in value due to economic obsolescence can be measured again by both the direct sale comparison in the market place and capitalization of rent loss. When land value is estimated correctly considering the existence of the external obsolescence, the land value will already reflect the existing obsolescence. Application of the loss in value, therefore, should be attributed to the building portion only. Direct comparison in the marketplace would involve the comparison of two otherwise comparable sales, and the resultant difference in sales price would represent the measure of economic obsolescence. For example, an analysis of comparable sales reveals that a home located in a typical residential neighborhood sold for \$42,500 and a nearly identical home located near railroad tracts sold for \$41,500. Comparison of the home located in a typical residential neighborhood that sold for \$42,500, with a nearly identical house located near railroad tracks that sold for \$41,500, reveals a loss in value as demonstrated below:

<i>House – Typical residential neighborhood</i>	<i>\$42,500</i>
<i>House – Located near railroad tracks</i>	<i>- 41,500</i>
<i>Loss in value attributable to location near railroad track</i>	<i>\$ 1,000</i>

Considering capitalization of rent loss, an example of houses near the railroad tracks are renting for \$10 per month less. However in this instance the land to building ratio would need to be considered and a gross rent multiplier would need to be established for the neighborhood. For the purpose of this example the land to building ratio is considered to be 1:4 a typical gross rent multiplier for the area was considered to be 100. The computation of economic obsolescence is demonstrated below.



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<i>Rent Loss</i>	<i>\$10</i>
<i>GRM</i>	<i>x 100</i>
	<i>\$ 1,000</i>
<i>Building Portion = 80%</i>	<i>x .80</i>
	<i>\$ 800</i>
<i>Economic obsolescence attributable To the Building .....</i>	<i>\$ 800</i>

Because sales and rentals in an area sometimes have other factors of the sale or rental that may or may not affect a sale price or rental amount more than one sale or rental example would be desirable. Using additional sales or rentals would most likely indicate a range of dollar or percentage loss and the assessor/appraiser would need to further analyze the indicated range to estimate the loss. This would apply for both functional and external obsolescence calculations.

**C. Estimating Accrued Depreciation**

The **replacement cost new** or the reproduction cost new (RCN) is only one element of the cost approach. Neither the assessor nor the property owner is particularly interested in what the cost would be if the structure was constructed today, but more importantly, in the value of the structure under the conditions which presently exist. To arrive at a reasonable estimate of market value, the assessor must deduct the appropriate depreciation from the RCN. Rarely in a mass appraisal environment is the assessor allowed the luxury of detailed categorization and measurement of depreciation as depicted above.

For purposes of uniformity in a mass appraisal program, depreciation schedules are often developed. Depreciation schedules are easily established through the use of market sales information and a reliable cost schedule. The basic formula is as follows:



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$$\text{Accrued Depreciation} = \text{RCN} - (\text{Sale Price} - \text{Land Value})$$

<i>RCN</i>		<i>\$41,500</i>
<i>Sales Price</i>	<i>\$45,000</i>	
<i>Land Value</i>	<i>- 7,650</i>	
<i>Residual Building Value</i>		<i>\$37,350</i>
<i>Accrued Depreciation</i>		<i>\$ 4,150</i>

$$\begin{aligned}\text{Depreciation Rate} &= \text{Percent of accrued RCN depreciation} \\ \text{Depreciation Rate} &= \text{Accrued Depreciation} \div \text{RCN} \\ &= \$4,150 \div \$41,500 \\ &= .10 \text{ or } 10\%\end{aligned}$$

Through numerous applications of the above technique, a depreciation schedule may be developed. The resultant accrued depreciation figures are then plotted on a graph and a curve is fitted which seems to best describe the data points with effective age on one axis, and the percent of accrued depreciation on the other. The resultant curve indications may be straight when depreciation is at an equal annual rate, or variable, when depreciation occurs at an unequally accelerating rate. **Exhibit 6.20** is an illustration of two such graphs. From the variable rate graph, a depreciation schedule may then be developed.

<u><i>Effective Age</i></u>	<u><i>Percent Depreciated</i></u>
<i>NEW</i>	<i>0%</i>
<i>10</i>	<i>11%</i>
<i>15</i>	<i>17%</i>
<i>20</i>	<i>25%</i>
<i>25</i>	<i>34%</i>
<i>30</i>	<i>44%</i>
<i>40</i>	<i>63%</i>
<i>50</i>	<i>77%</i>



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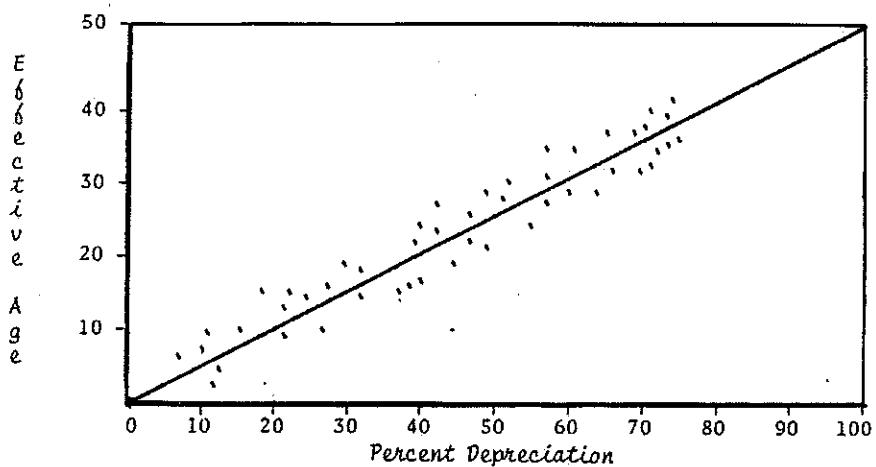
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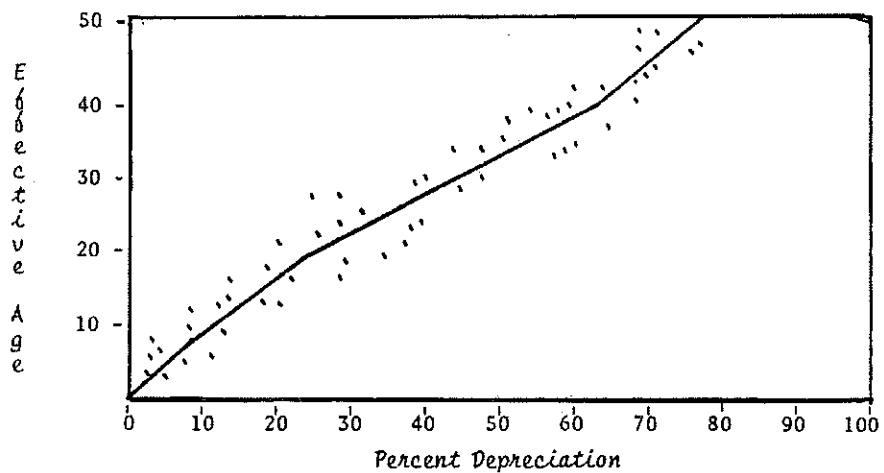
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#### EXHIBIT 6.20 DEPRECIATION SCHEDULE ANALYSIS GRAPHS

##### Straight Rate



##### Variable Rate





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The sales comparison method of estimating normal accrued depreciation is more effective when a higher degree of stratification exists. Analysis of such factors as building type, construction quality, and type of construction, age, and location form a significant basis for stratifying property. Ideally, a depreciation schedule would be developed for each neighborhood or homogeneous grouping of properties since, by definition, the structures would be very similar in these respects. Since that is not often feasible, it must be remembered that depreciation schedules reflect only typical depreciation, generally related to age and location. The appraiser must account for any additional factors resulting in a loss in value due to economic or functional dissimilarities. A depreciation schedule, like the cost manual to which it is applied, is nothing more than a tool of the appraiser. The ultimate value conclusion is the result of the application of these tools modified by the judgment of the appraiser.

In many jurisdictions in the State of Missouri, it may be extremely difficult to accumulate enough sales to develop a sufficiently stratified reliable depreciation schedule. There are other methods of estimating accrued depreciation readily available to the assessor. Once again, reliability decreases in direct proportion to ease of application. Virtually every cost manual published includes a section with recommended depreciation schedules applicable to the classifications developed within the manual. The schedules are developed in the same manner as above except a very large number of sales from throughout the country are used. While they may be adopted with some success in urban areas where buyer and seller motivations are more typically represented, they may lose much of their responsiveness in rural jurisdictions. A published depreciation schedule may be used as a base and modified by locally gathered sales information, with the resultant schedule being fairly reflective of local conditions.

By far the most widely used method of estimating accrued depreciation by the assessor is the age-life concept. The application of the age-life concept involves a thorough understanding of three terms: **typical or total economic life, remaining economic life and effective age**. Typical economic life is that period of time in which a structure, similar to the subject, may be expected to be economically viable. It represents that period of time beginning when the structure is completed until it is no longer capable of being utilized to perform the function for which it was designed. It is the estimated total life of the structure from "birth" to "death". Once again, most cost manuals publish typical economic lives for the individual classes of structures contained therein. Remaining economic life may be simply explained as that period of time from now until death. It is an estimate, by the appraiser, as to how long into the future the structure and its environment of present use will continue to be economically viable. It is upon the estimate of remaining economic life that the entire worth of the appraisal rests. The appraiser must be aware of all factors affecting the value of the subject property, not only the physical deterioration but also functional and economic obsolescence. The life of a structure may be lengthened by remodeling or by market forces from outside the property (for instance, a neighborhood in which many older buildings are being renovated) just as it may be shortened due to changes in economic conditions (use) or neglect causing a greater than a typical amount of deferred maintenance.



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While the estimate of remaining economic life is totally subjective on the part of the appraiser, a trained appraiser who has developed an understanding of the local marketplace can utilize the age-life method of estimating accrued depreciation with amazingly accurate results. It is at this point more than any other that the judgment of the appraiser comes in. Rarely in a mass appraisal program do all of the field personnel have the experience necessary to develop and exercise this judgment and it is for this reason that the field review phase is so important.

Once the remaining economic life has been estimated, it is subtracted from the typical economic life and the effective age is thus determined. For the reasons stated above, the effective age may be the same as the chronological age of the structure, but most generally it is not. The percent of depreciation per year is then applied to the effective age and the total depreciation applicable to the subject property is calculated. The depreciation per year is usually calculated on a straight-line basis, meaning that the property depreciates an equal amount each year of its existence. There are other more sophisticated methods, such as declining balance and sum-of-the-year-digits. Since the key to an accurate depreciation estimate is the appraiser's estimate of remaining economic life, the use of these alternate concepts generally represents an over sophistication in which the increased effort is not rewarded with increased accuracy.

Once the appraiser has an estimate of remaining economic life, the calculation of the depreciation estimate is a straightforward matter:

<i>Typical Economic Life</i>	<i>45 Years</i>	<i>(From Manual)</i>
<i>Remaining Economic Life</i>	<i><u>12 "</u></i>	<i>(Appraiser's Estimate)</i>
<i>Effective Age</i>	<i>33 Years</i>	
<i>Depreciated @</i>	<i>2.22% / Year</i>	<i>(1 ÷ 45 = .0222%)</i>
<i>Total Depreciation</i>	<i>73.26%</i>	<i>(33 x 2.22%)</i>
	<i>Say <u>73%</u></i>	

Because an assessor is valuing many properties in a county the depreciation applied needs be consistent for similar type properties and or similar locations throughout the county.

### 6.3 Sales Comparison Approach

The sales comparison approach may be defined as that approach which uses direct evidence of the market's behavior in estimating value. There is no exact guide to the market value of a parcel of real estate, such as that which exists for stocks and bonds that are listed on the various exchanges. The





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market value of listed stocks and bonds can be readily ascertained at any time during the operating hours of these exchanges. Furthermore, each share of stock or bond issued by a company has an equal value because it is issued by the same company with equal characteristics of operation and assets. Such is not the case with real estate. Because no two parcels are exact duplicates, the only possible method of estimating value is to assemble all available market data and translate them into an indication of value for the subject property or properties. Since all properties possess different attributes, certain adjustments or refinements are generally necessary. The assessor's judgment in interpreting various differentials and giving the correct amount of weight to the proper factors is of the utmost importance in making these adjustments.

The sales comparison approach is based upon the Principle of Substitution. Substitution implies that the value of a property is based on the price that would be paid to acquire a similar property. The similar property would have similar utility and would be as desirable as the property being replaced. The principle of substitution indicates that the reliability of the sales comparison approach is not as accurate if there are not substitute properties available in the market. Actually, no two properties are ever identical, but they may be reasonable substitutes for each other if all relevant economic characteristics are similar. Because of the nature of the real estate market and bargaining that is characteristic of most sales, even perfect economic substitutes frequently sell for different amounts. The assessor should not be disturbed by such situations because this is the nature of the real estate market. Therefore, the market value of real estate is more realistically described as a range than as a point. However, the assessor is attempting to make a single estimate of value that will fall somewhere within that range. When the work is completed, the result will produce an indication of what active and prudent buyers of real estate might reasonably pay for the property. It should be emphasized that there can never be a determination of value, only an estimate.

The sales comparison approach is applicable to all classes and types of property which are traded in the marketplace with any degree of frequency. The use of direct market evidence gives certain preeminence to the market data approach; however, the usefulness of this approach is limited. Certain types of properties are sold very infrequently. Large properties and those used for special purposes are seldom traded in the market.

Because of the uniqueness of special-purpose properties, they do not lend themselves to comparisons with others. For that reason, comparisons are difficult or impossible to make, and other valuation approaches must be relied upon. In addition, certain sales are not good indicators of market value. A sales price must meet certain conditions as prescribed by the definition of market value: (1) the sale must be under open market conditions; (2) neither party may take advantage of the duress of the other; (3) a reasonable time must be allowed to find a buyer; (4) a reasonable knowledge of the property's uses - both present and future - must be possessed by both buyer and seller and (5) no collusion or "love and affection" consideration between parties must exist. If the sale does not meet these



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conditions, it may be adjusted to the extent that the absence of such conditions distorts the price. Once this adjustment has been made, the sale may be an indicator of market value of the sold property as of the date of the sale. If the required adjustment is too speculative, the sale should not be used.

The purpose of this section is to describe the practical procedure for application of the sales comparison approach. Application of this approach may be made manually or through computerized techniques such as Multiple Regression Analysis (MRA).

#### **1. Analysis of Subject Property**

Before the assessor can begin to research and analyze direct market evidence into an indication of value, he or she must be familiar with the property or properties to be appraised. Therefore, a thorough analysis of the subject property is required. The steps to be taken in analyzing the subject property include investigating the neighborhood, inspecting the site and improvements, identifying the physical characteristics of the property and identifying the property's highest and best use.

##### **A. Indication of Neighborhood**

It has often been said that the three most important things that influence value are location, location and location. Real estate generally cannot be divorced from its location. The value of the property is therefore closely related to the economic future of the area or neighborhood in which it is located. In addition, the use of the property is dependent upon the availability of external support services (roads, utilities, schools, etc.) that also influence value. Therefore, the subject property must be considered as an integral part of its environment and cannot be treated as an entity unaffected by its surroundings. The assessor will find that an important step in the valuation process is the identification and delineation of the different neighborhoods within the jurisdiction. Through the use of a neighborhood code or identification number, the assessor will be able to identify the areas in which comparable market evidence may be used.

##### **B. Site and Improvement Inspection**

A site is defined as land that has been improved in order to be used for a specified purpose. Raw land would then be described as land that has not had any improvements. The land is in its natural state and has not been prepared for a specific purpose. The size, shape, and accessibility of the site will affect its desirability and potential use. It is important that the assessor accumulate data concerning physical factors pertaining to the site such as dimensions and shapes, streets, drainage, site utilization, utilities, etc.



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#### **C. Physical Property Characteristics**

In applying the sales comparison approach, the assessor must inspect the subject property and record the physical characteristics of the improvements necessary for the comparison of the subject property to those properties on which sales information has been obtained. Elements of comparison for improvements include building areas and dimensions, architectural design and shape, size, attractiveness, construction quality, construction materials, other building amenities, functional utility, age and condition, etc. In some cases environmental conditions may also need to be considered. It should also be mentioned that the cost of installing or removing an item may not be equal to the value gained or lost. An example would be the addition of a wood deck that cost \$5,000 to have installed. While this amenity may add value to the subject, it does not guarantee that this will raise the value of a property by \$5,000. There are also cases where the value gained is more than the cost to add an amenity. In the final analysis of these comparison elements, the assessor should consider only those characteristics that are considered by the participants in the marketplace as contributors of value.

#### **D. Identification of Highest and Best Use**

Since an informed seller would not sell a property for less than its worth at its highest and best use, market value is considered to be the value of the property at its highest and best use. In estimating value, the current use of a property should be given first and most serious consideration as its highest and best use, as property owners generally strive to develop property to its highest and best use. Buyers and sellers, however, do make mistakes and at times are not well informed. Also, some properties are in areas of transition to a higher and better use of land. Therefore, in applying the sales comparison approach, the assessor will need to make a careful study of the highest and best use of the property in order to identify the type of comparable data needed.

Once the assessor has obtained the necessary information and conducted a thorough analysis of the subject property, he can then enter the real estate market to search for comparative sales data.

#### **2. Market Research and Analysis**

One of the primary difficulties in the application of the sales comparison approach is a lack of sufficient data of adequate quality to justify a market value estimate. The comparative accuracy of value estimates made through the use of this approach will be proportional to the degree of care and effort with which data, both as to quantity and quality, are gathered, screened and interpreted. Therefore, based upon the nature of the sales comparison approach and to ensure valid market conclusions, the process of comparison and adjustment must be made with sales that constitute acceptable evidence of typical market actions within the market in which the properties are located.



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In order for the assessor to maintain an adequate data bank, it is imperative that a system of collecting, analyzing and storing this data is developed. Data relative to a market data file may be stored in either a manual file, on a computer or both. Any data utilized needs to be retained for support in case of litigation.

A comprehensive market data collection program requires careful advanced planning. The development of a plan for the collection of market data should relate to the following minimum requirements: (1) the personnel to be responsible for the collection of market data; (2) identification of the information to be collected and stored in the market data file relative to the analysis of market transactions (sales prices, incomes and expenses, and construction cost indices); (3) identification of the type (sales prices, income and expense, and cost) of market data to be collected; (4) identification of the type of storage file to be used and (5) the procedures to be followed in distributing this data to the appropriate appraisers and or appraisal departments.

After verification of sales data and discarding those sales deemed to be invalid, the assessor should identify each sale as to its degree of compatibility with marketing areas within the jurisdiction. This may be accomplished through the use of the neighborhood code number that has been assigned to each property. The identification of those neighborhoods that may be used on a comparative basis will make it possible for the assessor to select the proper comparative sales in estimating values of all properties within a neighborhood.

An important step in the sales comparison approach is the analysis of the comparison factors. Too many factors of non-compatibility in any of the sales may require so much subjective adjustment that the assessor may conclude that a sale originally thought to be a comparable sale may not be. Similarities and dissimilarities must be identified. The most dependable conclusions are based on comparison of those properties with the most similar factors and conditions. The assessor should consider the value contribution of the dissimilarities and estimate an amount that may be added to, or subtracted from, the known price of the sale property in order to arrive at an adjusted figure that will reflect a probable sales price for those properties being appraised.

Some of the factors that may require adjustment are:

- A. Real property rights conveyed***
- B. Financing Terms***
- C. Conditions of Sale***
- D. Market Conditions (Time)***
- E. Location***
- F. Physical Characteristics***
- G. Economic Characteristics***



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#### ***H. Use***

#### ***I. Expenditures made after purchase***

#### ***J. Non-realty components (personal property included)***

Once these differences have been identified, the adjustment process can begin.

### **3. The Comparison and Adjustment Process**

Once sales data has been collected, verified, and determined to be valid, the comparison of the subject properties to those comparable properties on which sales information has been obtained can be made. In order to complete the comparison process, it will be necessary to develop standardized units of comparison for application to specific property types; then, make the necessary adjustments for dissimilarities between properties.

#### **A. Units of Comparison**

The comparison of properties can be made on a total unit basis (one total property to another), or the properties may be compared by some unit of measurement common to the type of properties involved.

Since it is difficult to make a comparison of sales prices in terms of whole properties, unless these properties are extremely similar, a sale price is typically converted to some common denominator or unit of comparison. These units of comparison establish a means by which sales prices can be analyzed and adjusted to indicate the value of other properties with similar characteristics. The unit of comparison selected needs to conform to the unit of comparison customarily preferred in the local market for each type of property.

The most common units of comparison found in the marketplace include, but are not limited to, the following:

#### **1. Residential Properties**

- a. Square footage or cubic footage of building
- b. Number of dwelling units
- c. Number of rooms
- d. Number of bedrooms

#### **2. Commercial Properties**

- a. Square footage of building--gross leasable area
- b. Square footage of building--net leasable area



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### **3. Industrial Properties**

#### **a. Square footage and or cubic footage of building**

The unit of comparison is developed by dividing the sales price by the number of units of measure for the property.

Development of units of comparisons is illustrated by the following example. An office building recently sold for \$1,450,000 and contained a total floor area of 62,000 square feet. Of this, 50,500 square feet was net leasable area. The development of the units of comparison is illustrated in the following:

#### **UNITS OF COMPARISON**

*Per Gross Building Area:*                       $\$1,450,000 \div 62,000 \text{ square feet} = \$23.39$

*Per Net Leasable Area:*                       $\$1,450,000 \div 50,500 \text{ square feet} = \$28.71$

The units of comparison listed above are the most common comparison units for the type of property identified above. However there are additional units of comparison that are applicable for particular types of property such the number of seats in a restaurant or theater.

Another common unit of comparison used that can be extracted from market sale information that has particular applicability to income-producing properties is the Gross Rent Multiplier (GRM) and the Gross Income Multiplier (GIM). These multipliers express the relationship between the gross monthly or gross annual rental income and the value of the property.

Gross rent and gross income multipliers are calculated by dividing the property's selling price by either its gross monthly rental income or its gross annual income at the time of sale. Gross rent multipliers can be a useful analysis tool if properly developed and used. The major consideration is that the properties used to develop the GRM or GIM and those properties to which it is applied are closely similar.

In the appraisal of a single family residential property, where application of a typical income capitalization approach is not practical, the use of the GRM is widely regarded as the "income approach" for residential properties. In valuing residential properties, the gross monthly rental income is used as the basis for estimating the GRM. For example, a house which recently sold for \$25,000 and rented for \$235 per month would have a GRM as follows:

$$\$25,000 \div \$235 = 106.38, \text{ say } 106 \text{ GRM.}$$



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The development of a GIM is demonstrated in the following example. The office building described in the previous example which sold for \$1,450,000 had an annual potential gross income (rent and other income) of \$254,000. The calculation of the GIM as follows:

$$\text{Gross Rent Multiplier: } \$1,450,000 \div \$254,000 = 5.7 \text{ GRM}$$

### **B. The Elements of Comparison**

An important step in the adjustment process is estimating the contributory value for elements of comparison. Through analysis of the local market, the assessor will have identified the pertinent and salient features which will require valuation adjustments. Adjustments should be made only for those variables that significantly add or detract from value. Therefore, the final value estimate of the property is based upon a total adjustment of the comparable properties' selling prices through a series of individual adjustments for those items of dissimilarity between the subject and comparable properties.

Since the adjustment process reconciles the sales prices of comparable properties into an indication of value for the subject property, the primary rule to remember in making adjustments is that adjustments are always made from the comparable to the subject. If the comparable is better than the subject in a particular feature, it requires a negative/minus (-) adjustment; and if the item of adjustment is inferior, it requires a positive/plus (+) adjustment.

The major categories into which elements of comparison fall, and in which adjustments for differences may be made, are: (1) time; (2) location; (3) conditions of sale; (4) terms of financing and (5) physical property characteristics.

#### **1. Market Condition (Time)**

The time adjustment is made in order to allow for changes in market conditions since the date of sale. The adjustment is made in order to project a probable selling price of the comparable property in today's market.

#### **2. Location**

It is best to select properties from the same neighborhood. Since this is not always possible, sales data on properties located in comparable neighborhoods may be used. Adjustments may then be needed for differences in location, but these adjustments should be supported with market data.



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### **3. Condition of Sale**

The definition of market value indicates that a sale must be a bona fide, arms-length transaction between knowledgeable parties with no undue pressure on either. Therefore, the possible sales that do not meet the established criteria for market value will need to be adjusted, if possible. If a sale has an unusual condition of sale that cannot be adjusted for, the sale should not be considered as a reliable indicator of value.

### **4. Financing Terms**

Real estate is sold through a number of different financial arrangements. Since buyers of real estate usually borrow a portion of the purchase price, the methods of financing the property must be analyzed. One of the conditions of market value is a consideration of financing in the form of cash or its equivalent. Therefore, adjustments must be made to the sales price involving unusual financial terms in order to arrive at an equivalent price based upon the typical financing that was available at the time of sale.

### **5. Physical Characteristics**

An inspection of those properties upon which market data has been acquired and those properties under appraisal will reveal a number of differences in the physical characteristics of each property. The elements of physical comparison could include style, size, and number of bathrooms, age, condition, functional adequacy, site and site improvements, structural type and quality as well as other special amenities.

## **C. Adjustment Techniques**

After value estimates that are attributable to the elements of comparison have been identified, the assessor must then make the adjustments for the differences between those properties under appraisal and those comparable properties which have recently sold. In making the adjustments for the various dissimilarities in the properties, the assessor may use one of several techniques.

### **1. Lump-Sum or Whole Property Adjustments**

This method involves the use of a single lump-sum adjustment figure to reflect the net effect of all the dissimilarities. This method makes no formal attempt at developing an individual adjustment for each item of dissimilarity, although these differences must be considered in the overall adjustment.





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For example, you are appraising a subject property and comparing it with one which sold for \$30,000. After consideration of all the dissimilarities between properties, you estimate that the subject property would sell for \$4,000 more than the sale property. The indicated adjusted value is:

$$\$30,000 + \$4,000 = \$34,000$$

### 2. Component Dollar Adjustment

In this method, the individual elements of dissimilarity are identified and an estimate of contributory value, expressed in dollars, for each of these elements is developed. The sum total of these individual adjustments will indicate the total refinement necessary to adjust the comparable sales properties to the subject. In arriving at a total adjustment, the assessor must add for deficiencies in the comparable property as opposed to the subject property, and subtract for those elements in which the comparable property is superior to the subject.

The application of this method involves the use of an adjustment grid which indicates the relative amenities of the subject property, the similarity or dissimilarity of each comparable sale to the subject, the sales price of each comparable property, the value adjustments for each item of dissimilarity, a total lump-sum adjustment and the adjusted value of each comparable property.

In this example, a thorough analysis of the market discloses the following elements of comparison and their contributory adjustment values. A comparable property sold for \$30,000 one year ago, and since then the value has increased by \$3,000. Its location is superior to the subject and requires an adjustment of \$1,500. In the area of physical characteristics, the comparable has one less bath and no garage. A bath adds a value of \$1,000 and the garage has a contributory value of \$1,400. The adjustments are illustrated as follows:

<i><u>Sales</u></i>				<i><u>Net</u></i>	<i><u>Indicated</u></i>
<i><u>Price</u></i>	<i><u>Time</u></i>	<i><u>Location</u></i>	<i><u>Phy. Char.</u></i>	<i><u>Adjustments</u></i>	<i><u>Value</u></i>
\$30,000	+\$3,000	-\$1,500	+\$2,400	+\$3,900	\$33,900

### 3. Percentage Adjustments

This method is similar to the component dollar adjustment method described above. Because precise dollar amounts are sometimes difficult to estimate from market evidence, the difference can be represented by a percentage differential between the comparable property and the subject property. In developing the percentage adjustments, time adjustments are usually made first which allows for the additional adjustments to be made in terms of current local market.



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In the previous example, the comparable property sold for \$30,000. The analysis of the subject and the sale property disclosed the following adjustments: (1) time +\$3,000; (2) location -\$1,500 and (3) physical characteristics +2,400. These adjustments expressed as percentages are illustrated below.

<i>Sales</i>				<i>Net</i>	<i>Indicated</i>
<u>Price</u>	<u>Time</u>	<u>Location</u>	<u>Phy. Char.</u>	<u>Adjustments</u>	<u>Value</u>
\$30,000	+ 10%	- 5%	+ 8%	+ 13%	\$33,900

#### 4. Percentage Factoring Adjustments

In quantifying the adjustments, existing differences may be expressed as a factor manifesting the adjustment amount for each element as it reflects the relationship of the comparable property to the subject. In developing the adjustment factor, the subject property is considered to be the base (1.00) to which is added the plus (+) or minus (-) percentage adjustment indicative of the dissimilarities. For example, sales prices have increased 10% since the date of sale; therefore, the time adjustment factor would be 1.10 (1.00 +.10).

A composite or accumulative adjustment factor is developed by multiplication of all individual adjustment factors. For example,  $1.10 \times .96 \times .90 \times 1.01 = .98$ .

To illustrate, the previously shown example had a comparable property selling for \$30,000 with adjustments for time of +10%, location -5% and physical characteristics of +8%. The development of a composite adjustment factor is shown in the following illustration:

<i>Sales</i>				<i>Adjustment</i>	<i>Indicated</i>
<u>Price</u>	<u>Time</u>	<u>Location</u>	<u>Phy. Char.</u>	<u>Factor</u>	<u>Value</u>
\$30,000	1.10	.95	1.08	1.129	\$33,870

The foundation of the various methods for making adjustments is the development of the amount of adjustment for each element of comparison. In developing an estimate of value for these comparison elements, the assessor is attempting through market analysis to identify the contributing value placed upon the existence or nonexistence of these elements by the marketplace. In developing adjustments, sales may be paired (Paired Sales Analysis) in an effort to identify the effects on value due to the specific differences between the properties. If two sales properties are closely comparable except for one element, the difference in sales price may be attributed to that element.

For example, in researching the market you have found two properties, located in the same neighborhood, which resold recently. Sale number 1 sold four and a half months ago for \$31,800 and sold two years prior to that for \$26,600. Sale number 2 sold two months ago for \$32,500 with a prior



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sale of one year earlier of \$29,500. A time adjustment can be developed through the comparison of each property's current sales price and its previous sales price. In addition, an adjustment can also be developed through the comparison of sale number 1 with sale number 2. Using the current sale date of four and one-half months for property number 1 and the most recent sale date, two months ago, for property number 2, an adjustment can be developed. The development of an indicated time adjustment through application of both methods is illustrated in **Exhibit 6.21**.

The example time adjustments assumed that the sale properties were not affected by condition or other factors beyond the time difference.

In the following example, an analysis of the market indicates that the following elements - time, location, garage and physical condition - will require consideration in the adjustment process. Sales 2 and 4 were taken from the same neighborhood, while sales 1 and 3 were taken from a comparable neighborhood that was somewhat inferior to the subject's neighborhood. Sale number 1 has no garage, is in good condition and sold one month ago for \$30,000. Sale number 2 also has no garage, is in good physical condition and sold two months ago for \$32,000. Sale number 3 has a two car garage, is in good condition and sold one month ago for \$32,500. Sale number 4 has no garage, is in fair condition and sold one and a half months ago for \$31,500. An analysis of the market indicates that market values are increasing at the rate of one percent (1%) per month.

The adjustment process for this example is shown in **Exhibit 6.22**. This Exhibit illustrates an analysis grid indicating the development of the contributory value of each element, and an adjustment grid illustrating the application of the adjustment process in developing an indication of value for the subject property by the market approach.



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#### EXHIBIT 6.21

#### ADJUSTMENT DEVELOPMENT TIME ADJUSTMENT

##### DEVELOPMENT WITHIN PROPERTIES:

	<u>Sale No. 1</u>	<u>Sale No. 2</u>
Previous Sale Date	2 yrs. ago	1 yr. ago
Previous Sale Price	\$ 26,600	\$ 29,500
Current Sale Price	\$ 31,800	\$ 32,500
Change in Value--\$ Amount	\$ 5,200	\$ 3,000
Change per Annum	\$ 2,600 (1)	\$ 3,000
Change in Value--% Amount	19.5%	10.2%
Changer per Annum	9.75% (2)	10.2%

Indicated Time Adjustment = \$2,600-3,000/yr., or 9.75%-10.2%/yr.

##### DEVELOPMENT BETWEEN PROPERTIES:

	<u>Sale No. 1</u>	<u>Sale No. 2</u>
Sales Date	4.5 mos. ago	2 mos. ago
Sales Price	\$ 31,800	\$ 32,500
Time Difference	2.5 months	
Difference in Value - \$ Amount	\$280/month (3)	
Difference in Value - % Amount	.88%/month (4)	

Indicated Time Adjustment = \$3,360/yr. or 10.5%/yr.

Overall Indication = \$3,000 or 10% per year.

1.  $\$31,800 - \$26,600 = \$5,200 \div 2 \text{ (yrs.)} = \$2,600/\text{yr.}$
2.  $\$31,800 - \$26,600 = \$5,200 \div \$26,600 = .195 \div 2 \text{ (yrs.)} = .0975/\text{yr.}$
3.  $\$32,500 - \$31,800 = \$700 \div 2.5 \text{ (months)} = \$280/\text{month}$
4.  $\$32,500 - \$31,800 = \$700 \div \$31,800 = .022 \div 2.5 \text{ (months)} = .0088/\text{month.}$



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### EXHIBIT 6.22

#### MARKET APPROACH ADJUSTMENT PROCESS

##### Analysis Grid

##### Comparable Sales

Comparison Elements	No. 1	No. 2	No. 3	No. 4
Sales Price	\$30,000	\$32,000	\$32,500	\$31,500
Date of Sale	1 month	2 months	1 month	1-5 months
Location	Good	Excellent	Good	Excellent
Garage	None	None	2-Car	None
Physical Condition	Good	Good	Good	Fair
Sales Number 1 & 2 - Location		= \$32,000 - \$30,000 = \$2,000		
Sales Number 1 & 3 - Garage		= \$32,500 - \$30,000 = \$2,500		
Sales Number 2 & 4 - Physical Condition		= \$32,000 - \$31,500 = \$500		

##### Adjustment Grid

##### Comparables

Subject	No. 1	No. 2	No. 3	No. 4
Sales Price	\$30,000	\$32,000	\$32,500	\$31,500
Time - Current	1 Month + 300	2 Months + 640	1 Month + 325	1.5 Months + 475
Location - Excellent	Good + 2,000	Excellent - 0-	Good + 2,000	Excellent - 0-
Garage - 2-Car	None + 2,500	None + 2,500	2-Car - 0-	None + 2,500
Physical Condition - Fair	Good - 500	Good - 500	Good - 500	Fair - 0-
NET ADJUSTMENTS	+ 4,300	+ 2,640	+ 1,825	+ 2,975
ADJUSTED VALUES	\$34,300	\$34,640	\$34,325	\$34,475

INDICATED VALUE = \$34,475 or \$34,500 (Rounded)

VALUE RANGE = \$34,300 to \$34,640



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#### **4. Reconciliation of Value and Final Opinion of Value**

On completion of the adjustment process, an adjusted sales price will have been developed for each of the comparable sales properties used. If properly completed using good sale information the adjusted values should fall within a relatively narrow range. The final step of the sales comparison approach will be to correlate these adjusted value indicators into a single estimate of value for the subject property. Correlation is a procedure through which the market evidence used to develop the indications of value is logically analyzed to select the indication of value most representative of the data processed. In selecting the single value estimate, it is not proper to average the individual indications into a single value estimate. In an analysis of the comparable properties used, the greatest emphasis should be placed upon the adjusted sales price of those comparable properties regarded to be most similar to the subject property. Guidelines to be considered in making this analysis are total number of adjustments required, and the gross adjustment made to the property. Simply stated, those sales properties with the least number of adjustments and the smallest total adjustment would indicate the properties most likely to be closely comparable to the subject property. Once the final value has been determined it is also important to mention all three approaches to value in the reconciliation. The appraiser must explain each approach to value, or indicate why a certain approach was not considered or developed. An example of a reconciliation of value would be as follows. The sales comparison approach was deemed to be the best indicator of value for the subject property. Sales comparables similar to the subject were located and have been adjusted to indicate a final value estimate. The income approach, although considered, could not be developed because income/rental information for this type of property was scarce or more or less non-existent. The cost approach was developed and provides support for the sales comparison approach value indication. Overall, the final value is based on the sales comparison approach because it was concluded that this approach best reflects the attitudes of typical buyers and sellers in this market place. The previous reconciliation is a minimum of what this section of the appraisal should contain.

#### **5. Multiple Regression Analysis**

Multiple regression analysis (MRA) is a mathematical technique used to establish contributory values for comparative characteristics of a sale property adding the total sales price based upon known and available data. The known and available data are recorded sales prices and property characteristics. The supposition of multiple regression analysis is to derive an equation that best expresses the relationship of a number of significant factors to the total market value of a property developed through the analysis of a large number of sales.

The most important aspect in the use of a computerized MRA appraisal technique is the development and maintenance of an adequate data file. Since MRA is a statistical analysis technique, the validity of a characteristic's value indication depends upon the processing of a large number of valid sales. With



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respect to property characteristics, the assessor will need to gather information on all those characteristics which might have a significant effect upon the total market value of properties within the jurisdiction. These include property improvement characteristics (number of bathrooms, square feet of living area, type of construction, effective age of structure, etc.); land characteristics (size of the lot, shape of lot, landscaping, etc.) and locational factors (neighborhood amenities, zoning, view, etc.).

The end result of regression analysis is the development of a mathematical equation that may be applied to unsold properties in arriving at an indication of value. The equation estimates the value of the dependent variable through the assignment by the computer of a dollar amount attributable to the independent variable. Market value serves as the dependent variable and the various property characteristics for which data have been collected serve as the independent variables. The mathematical equation used in MRA is expressed as follows:

$$Y' = A + B_1 X_1 + B_2 X_2 + B_3 X_3 + \dots B_n X_n$$

In the equation, “Y’” is the estimated selling price; “A” is a constant in each regression equation and represents a residual portion of the estimate not accounted for by a coefficient; “B<sub>1</sub>...B<sub>n</sub>” are the coefficients, or dollar amounts, assigned by the computer to the independent variables and “X<sub>1</sub>...X<sub>n</sub>” are the numerical quantification of the property characteristics found to be significant in property valuations. For example, suppose the computer calculates a regression equation for neighborhood number 32 to be used as the basis for appraising unsold properties in that neighborhood. In analyzing sale properties within that neighborhood, the computer determined that 4 independent variables had an effect upon value. Therefore, the basic equation for consideration of these 4 variables is shown as follows:

$$Y' = \$3,000 + \$17.63 X_1 + \$1,750 X_2 + \$750 X_3 - \$350 X_4$$

In this equation “X<sub>1</sub>” is the number of square feet of living area, “X<sub>2</sub>” is the number of garage car-units, “X<sub>3</sub>” is the number of bathrooms, and “X<sub>4</sub>” is the effective age of the structure. The constant component “A” is \$3,000, the square foot value “B<sub>1</sub>” is \$17.63, the garage unit value “B<sub>2</sub>” is \$1,750 per unit, the value per bath “B<sub>3</sub>” is \$750 and the impact of effective age “B<sub>4</sub>” is -\$350 per year. In the application of this regression equation to unsold properties to obtain value estimates, the computer is developing a value for a property that has 1,500 square feet of living area, a two car garage, two baths and an effective age of five years. Through application of the above equation, the computer estimates the value of the subject property as follows:

$$\begin{aligned} Y' &= \$3,000 + (17.63 \times 1,500) + (1,750 \times 2) + (750 \times 2) - (350 \times 5) \\ Y' &= \$3,000 + \$26,445 + \$3,500 + \$1,500 - \$1,750 \\ Y' &= \$32,695 \end{aligned}$$



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Therefore, an application of the computer-developed equation to all unsold properties within the same neighborhood will produce a market value estimate for each of these properties. A more realistic example would, of course, contain many more independent variables. Despite the statistics and computer technology, the assessor must recognize that MRA is nothing more than a refined and automated application of the sales comparison approach to value, and the assessor should also generate value estimates based upon the cost approach and income approach where applicable.

In not all cases will MRA-assisted assessment programs prove to be cost beneficial to a taxing jurisdiction. Some initial costs of system development, particularly those associated with securing an adequate data file, are large.

The major initial cost outlay relates to the procurement of computer hardware and the development of the computer programs. After the initial capital expenditures required for system set up, the annual cost per parcel will begin to decline and compare favorably with traditional assessment methods. The advantages of MRA are such that assessment jurisdictions with a favorable property base, the necessary resources and with a sufficient number of verifiable arms-length transactions per year are urged to consider its use as an appraisal tool.

#### **6.4 THE INCOME APPROACH TO VALUE**

Typically utilized income approach methods will be discussed in the body of this manual. The 6.0 supplement that follows the body of this document has additional Income approach methods that would have fewer applications in Ad Valorem valuation.

The income approach is based on the premise that the value of a property is equivalent to the present worth of the net income it may be expected to produce during a normal term of ownership or over its remaining economic life. Application of the income approach is essential to the proper appraisal of all properties which are normally bought and sold on the basis of their ability to produce income. The necessity of applying this approach lies in the fact that the income producing capability of a property is a major factor in determining a sales price among investors. Likewise, one of the best measures of a property's utility and desirability is the amount of net rental income it can produce in an open and competitive market.

The income approach to value may be defined as any method of appraising that converts income into an estimate of value. This broad definition includes any use of monthly or annual gross multipliers of income as well as the more refined methods of processing income. In its simplest form, the income approach is a discounting process which expresses the relationship between income and value through a capitalization rate that reflects market demands for return **ON** and **OF** the investment in real estate.





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#### **1. Basic Assumptions**

The income approach to value is a useful, although sensitive, appraisal tool. It is useful for many types of commercial property (due to their income-producing capabilities) because it is the most valid approach to value. It is sensitive because errors have a leverage affect and result in indicators of value being incorrect by many multiples of the original error. The income approach usually employs more complicated mathematics than the other approaches. An appraiser sometimes becomes so impressed with the mathematics that a greater degree of accuracy is attributed to the answer than is merited. The accuracy can be no greater than the validity of the basic assumptions applicable to this approach.

#### **A. Value is a Function of Income**

A basic assumption of the income approach is that people purchase property for the income it will yield. A different way of stating this assumption is that the value of property depends upon the income it will produce. This assumption has general acceptability in the appraisal of most commercial property. It is plausible, for example, that the landlord of a store owns the property for the rental income it generates and that a potential purchaser would buy it for the expected future income. This is an important assumption, and in cases where it does not correspond with the actual facts, the validity of the approach is reduced.

Income may be defined as a flow of benefits over time. In order to use the income approach, the benefits must be expressed in terms of money. The conversion of certain types of benefits into monetary equivalents may be difficult. Single-family residential properties produce benefits in the form of amenities. Appraisers find it difficult, if not impossible, to convert an amenity into a monetary value. Since commercial properties are usually leased to tenants, these benefits are converted into monetary income in a highly competitive market. Farm properties derive benefits from at least two different sources: (1) as a production unit whose benefits can be converted into monetary income and (2) as a living unit whose benefits are difficult, if not impossible, to convert into monetary income.

The income that is capitalized in the income approach is the expected future income. Past income is only a guide to estimating future income. When property is transferred, the buyer does not acquire the income that it has already yielded; instead, the property is acquired for the right to the income which it will yield in the future. In many cases, the immediate past or current income may be a good indicator of future income; however, complete reliance upon past or current income may be incorrect. The proper income to be used is the one which the typical purchaser would anticipate over the remaining productive life of the property. Income forecast should be based upon past and present income modified by foreseeable economic changes. The appraiser is not attempting to predict the future income, but rather to estimate the income that a typical investor would expect to receive.



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The income to be processed must be the expected future income from the property to be appraised. An ordinary commercial retail store involves at least two businesses. One is the business of owning the property. The other is the business of selling merchandise or services. It is necessary to determine what portion of expected future earnings is attributable to the business of "owning the property". In some properties, especially certain industrials, this is impossible and the income approach has little, if any, validity.

Property rentals are the most desirable form of income data for use in the income approach. They avoid the problem of attributing a portion of the income to the business enterprise and the remainder to the business of owning the property. An operating statement of a retailer, wholesaler or manufacturer may list all of the earnings. It may reflect enterprise earnings or losses as well as property earnings or losses. A financial statement may show earnings which were derived, in part, from the business enterprise. These are not to be valued by the assessor. The appraiser must start with an operating statement in order to determine the income attributable to the property being appraised. Rent, in most cases, is a direct measure of the income from a property. Rentals are, in effect, short-term sales of the right to use the property for a short period of time. The appraiser is attempting to estimate a value for perpetuity. The usual appraisal problem of rental properties is one of estimating the value of the right to use the property in perpetuity by reference to the consideration in a sale for a limited term.

#### **B. Remaining Economic Life**

The income approach assumes that the investor in real property will estimate the quality and duration as well as the quantity of the income stream. For land, the duration is usually perpetuity (forever), but improvements have limited lives; therefore, the estimation of a remaining productive life (that period of time over which the property will earn a net income above the net rent applicable to the land) is important in the income approach and requires careful analysis. Average structure life tables can be developed as general guides; but a careful study of the structural soundness of the improvements, the degree of functional obsolescence and the economic and social trends in the neighborhood and community should serve as the basis of this estimate.

#### **C. Discounting and the Capitalization Process**

Another assumption of the income approach is that future income is less valuable than present income. It follows that future income must be discounted to make it equivalent to current dollars. Discounting is a method of finding the present value of a sum receivable at some future date. The value today is the amount which, when compounded periodically (usually annually) at a given rate will accumulate to the sum at the future date. For example, \$104 due one year from today is worth \$100 today if the interest rate is four percent (4%).



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A series of payments made at equal intervals is known as an annuity. The present value of an annuity is the sum of several separate periodic incomes discounted to their respective present worth. The process of discounting an annuity, or any future payment of money, to obtain the present worth of this income (the indicated market value of the property producing the income) is called "capitalization". The components of the mathematical process are: (1) the money income to be discounted, (2) the rate at which it is to be discounted, (3) the time over which the income is to be realized, (4) and the indicated present value of that income.

In its simplest form, this process may be represented by the mathematical equation  $V = I \div R$ , where "V" equals the indicated present worth of the income stream, "I" equals the income to be capitalized and "R" is the capitalization rate. In applying basic mathematical principles, the net income, the capitalization rate and the value of the property constitute a basic equation from which any one of the three elements can be determined if the two remaining elements are known as observed in the following examples:

$$\begin{aligned} I \div V &= R & \text{Income } (\$4,000) \div \text{Value } (\$50,000) &= \text{Rate } (8\%) \\ V \times R &= I & \text{Value } (\$50,000) \times \text{Rate } (8\%) &= \text{Income } (\$4,000) \\ I \div R &= V & \text{Income } (\$4,000) \div \text{Rate } (8\%) &= \text{Value } (\$50,000) \end{aligned}$$

In other words, if the income and value of a property are known, as in the case of a sold property, the capitalization rate can be determined. If the rate and value of a property are known, the income can be determined. And finally, if the income and capitalization rate are known, the value of the property can be estimated.

The appraiser must know the basic capitalization equation and understand the relationship between the various components of the equation before proceeding to the mechanics of the capitalization process. To capitalize means to convert net income into an amount of money consistent with the rate of return expected from the investment. The capitalization process has evolved out of the concept that an investor in income-producing real estate is entitled to (1) a return **ON** his or her investment and (2) a recapture **OF** the investment in that portion of the property which will eventually wear out or become valueless with the passage of time. The return on an investment is expressed as a percentage or rate of interest (discount rate) representing the annual yield on each dollar invested. For example, if an investor purchases a vacant parcel of land for \$50,000 and leases it for \$4,000 per year (net), he or she is receiving an 8% return on the investment:

$$\begin{aligned} R &= I \div V \\ R &= \$4,000 \div \$50,000 \\ R &= \underline{8\%} \end{aligned}$$



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On the other hand, if this investor purchases an identical lot for \$50,000 and constructs a building at a cost of \$200,000 and then leases the entire property for \$28,000 per year (net), he or she will be receiving an 11.2% overall return on the investment:

$$\begin{aligned} R &= I \div V \\ R &= \$28,000 \div \$250,000 \\ R &= \underline{11.2\%} \end{aligned}$$

It is particularly important to note in the above illustrations that between similar parcels of land, the one improved with a building requires a higher overall rate of return. There is no reason to assume that the building itself would require a higher rate of interest than the land; therefore, the difference between the land interest or discount rate (8%) and the overall land and building rate (11.2%) must be an addition to the interest rate to provide for recapture or return of the investment in the building. The recapture rate in this case was 4% as calculated below:

<b><i>Net Income Before Recapture:</i></b>		<b><i>\$28,000</i></b>
<b><i>Investment:</i></b>		
<i>Land</i>	<b><i>\$ 50,000</i></b>	
<i>Improvements</i>	<b><i>+ 200,000</i></b>	
<i>Total</i>	<b><i>\$250,000</i></b>	
<b><i>Net Income Attributable to Interest:</i></b>	<b><i>\$250,000 @ 8%</i></b>	<b><i>- \$20,000</i></b>
<b><i>Net Income Attributable to Recapture:</i></b>		<b><i><u>\$ 8,000</u></i></b>
 <b><i>Recapture Rate:</i></b>	<b><i>\$8,000 ÷ \$200,000</i></b>	<b><i>4%</i></b>
<b><i>Recapture Period:</i></b>	<b><i>1 ÷ .04</i></b>	<b><i>25 Years</i></b>

Thus, the capitalization process incorporates two basic principles:

1. Capitalization in Perpetuity does not include any provision for recapture. This is the interest rate and it represents the return on the investment. This rate is normally applied to the land.
2. Capitalization in Termination provides for both return on (interest) and return of (recapture) the investment in the wasting asset. This rate is normally applied to the improvements.

## **2. Processing Income**

Once the appraiser accepts the basic assumptions of the income approach, the next logical step is to process the income to the point where it can be capitalized. The objective of this section is to explain the processing of income from a gross income to a net income.



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#### **A. Gross Income**

The income approach begins with an estimate of the gross annual rental income which the property would be capable of producing if it were vacant and available for occupancy at the time of the appraisal. The income to be used is a figure representing the property's potential gross income at 100% occupancy over a period of one (1) year, and which would be expected by the typical investor for rental of the unencumbered fee simple rights.

Estimating the fair rental income of the full property rights is the objective of the appraiser. Fair rent is "fair" only in the sense that it reflects a foreseeable, future supply and demand for such real estate. Fair rents reflect the maximum earning power of the property in its particular market during its productive life. To ensure a proper estimate of gross annual income, the assessor should consider the following: (1) past and present rentals earned by the subject property and (2) past and present rentals earned by comparable properties. The terms fair rent and economic rent are synonymous and are used interchangeably. It should be noted that a property's contract rent is not necessarily equal to market rent.

#### **B. Vacancy and Collection Losses**

Unless a property is under a long-term lease to a responsible tenant, it is not expected to remain fully occupied during its total economic life. Consequently, it is reasonable that the gross annual income estimate, which assumes 100% occupancy, should be discounted to provide for anticipated vacancy losses. If, in fact, a property does not experience vacancy, it may be that the actual rent is too low. Even if this were not the case, it still would be a correct procedure to deduct a vacancy allowance from the gross income of the property, since a prudent investor and seller would anticipate some vacancy.

Vacancy losses are usually combined with collection losses, and are often expressed as a percentage of gross income. This income loss is estimated on the basis of a study of the subject property and an analysis of comparable properties in the neighborhood.

#### **C. Effective Gross Income**

Subtraction of the vacancy and collection loss allowance from gross income yields effective gross income. This result is the actual gross income that the investor can reasonably expect the property to produce year in and year out. No expenses have been deducted, so it is still a gross income figure.



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<i>Gross Annual Income</i>	<i>\$ 36,000</i>
<i>Vacancy &amp; Collection Losses @ 5%</i>	<i>- 1,800</i>
<i>Effective Gross Income</i>	<i>\$ 34,200</i>

#### **D. Expenses**

The next procedure is to subtract all expenses from effective gross income. The expense estimate, like the income estimate, should not necessarily be current or average past expenses, but an estimate of what expenses the prudent investor may reasonably expect during the remaining life of the property. They, like the income, are estimated on an annual basis.

There are several sources of information available to assist in preparing a reconstructed operating statement for the income approach. These include published national average expenditures for certain types of occupancy, and operating statements obtained from similar properties. Historical operating statements of the subject property itself should be given careful consideration. If income and expenses for the subject property have been relatively stable for the past three to five years, itemizing expenses on an average basis is satisfactory. However, if the historical operating statements show an upward or downward trend, more weight should be given to the most recent years. Remember, past income and expense statements are used only as a basis for projecting probable future expense to income ratios.

Likewise, in almost every case it will be necessary to reconstruct the owner's actual operating statement to adjust for capital improvements included as repairs, three-year insurance premiums charged to one year, etc. Items specifically excluded from the operating statement using the income approach are: (1) Mortgage interest and amortization payments; (2) Federal income tax and other personal expenses of the owner; (3) Building and equipment depreciation charges set up under I.R.S. regulations; (4) Additions to capital or major improvements to the property and (5) Special corporation costs and fees. The general rule is that all expenses of the property necessary to maintain the flow of income are deductible. The nature of the property and the terms of the typical lease agreement for that type of property will determine the appropriate items of expense to be charged against effective gross income. Expenses may be classified as follows.

#### **1. Fixed Expenses**

These costs fluctuate very little from year to year. They usually include real estate taxes and premiums for the necessary insurance coverage on the property. However, property taxes are one of the controversial items in the processing of income. The assessor should not treat property taxes as an expense. The purpose of an assessor's appraisal is to estimate a value for property tax purposes. If current property taxes are subtracted as an expense, the value of the property is assumed. Since the



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property tax equals the tax rate times the assessed value, the calculation of taxes involves an assumption that the appraiser knows the assessed value and hence the market value. If the value based on an income approach analysis is known, there is no point in completing the income approach to value.

Since real estate taxes are unknown in assessment appraisals, this item is excluded from the operating statement as an annual expense and is included as an addition to the capitalization rate as an Effective Tax Rate. For example, assume that property is assessed at 32% of value and taxed on the basis of \$6.50 per \$100 of assessed valuation.

$$\text{Effective Tax Rate} = 32\% \times (\$6.50 \div 100) = \underline{2.08\%}$$

This means that the taxes will be \$2.08 for every \$100 of market value; therefore, a 2.08% inclusion in the capitalization rate will automatically provide for a property tax equal to 2.08% of the value of the property.

### **2. Operating Expense**

Operating expenses paid by the owner may include such items as management, electricity, gas, water and sewer, janitorial services, salaries, maintenance and repairs, advertising, supplies and miscellaneous items, and other outlays necessary for the operation of the property.

The charge for maintenance and repair of the building and equipment should include only the normal annual expenditures necessary to keep the property efficient and in rentable condition. These costs include normal maintenance plus the annual prorated share of periodic painting and redecorating.

Management fees are considered proper expense deductions, whether the property is managed by a professional manager or the owner.

A considerable expenditure of time for accounting, supervision, and other managerial duties is required for efficient operation of the property. Additional cost for on-site management facilities and personnel may be required for larger properties. The amount of management fees, usually established in terms of a percentage of effective gross income, may be influenced by local custom.

### **3. Reserves for Replacement**

Reserves for replacement are annual installment allowances for the eventual replacement of equipment items and components of the building which will wear out before the building reaches the end of its economic life. These costs normally include an annual reserve for roof covering, floor covering (carpet, etc.), appliances, heating and air-conditioning systems, etc.



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If income and expenses are separately estimated year by year, the full cost of these replacements is expected to occur. It is far simpler, however, to set up an equal annual allowance for replacement of an item based upon the estimated life of the item. For example, a fifteen-year, bonded built-up roof with normal maintenance and repair could last for twenty years. If its cost of replacement was \$3,000, the annual reserve would be \$150 ( $\$3,000 \div 20$  years).

Reserve for replacement accounts may be set up on a straight-line basis as shown above or through the use of a sinking fund. Reserve accounts are not commonly established by the operators of real estate, and extreme care must be taken by the appraiser when utilizing a reserve for replacement account that these expenditures are not wholly or partially accounted for in the maintenance, repair or replacement accounts. When the capitalization process is achieved through the use of overall rates, derived from market transactions, the appraiser must know whether the accountability of these expenditure items is reflected in the derivation of net income or in the capitalization rate.

Also, to be considered is the relationship between the remaining economic life of the structure and the replaceable component. If the remaining economic life of the building itself is twenty-five years and the roof is expected to last for twenty years, no reserve for replacement should be set up.

In an income approach to value some items considered as expenses by an accountant are not considered as expenses by an appraiser. Interest and principal payments on a mortgage are not property expenses for appraisal purposes. They are merely indications that the property is encumbered. Depreciation, also, is not an allowable expense for appraisal purposes. Depreciation as used by the accountant is for the recapture of a previously incurred outlay. Instead, the appraiser seeks to estimate what value future income will need to recapture. For the appraiser to accept the accountant's depreciation charts as an expense means that he or she is accepting the sum to be recaptured as value. Only by incorporating the recapture of this depreciation as a factor in the capitalization rate does the appraiser avoid this assumption.

Income taxes, either individual or corporate, are not a deductible expense. These taxes are based on a corporation's or an individual's total income rather than income specifically earned from the ownership of real property, and it is almost impossible to allocate a portion of this tax to a specific property. In any case, when a capitalization rate is derived from actual sales using income prior to the deduction of income taxes and that rate is applied to incomes at the same level, these taxes are properly accounted for as the rate reflects income taxes recognized by the market.

It must be emphasized that normal expenses, like normal gross incomes, must reflect typical management. Sometimes an assessor may be able to utilize reported expense figures, but often stabilized figures calculated from similar properties will need to be applied.





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For purposes of illustration, assume that you are appraising a fifteen-year-old apartment property, and the owner has provided you with an accountant's operating statement showing the actual dollars spent and received in connection with this property during the past year. The building has thirty-five units, of which twenty rent for \$75.00 per month and fifteen rent for \$100.00 per month. Based on data received from similar properties, the rentals are in line with the market and a 5% vacancy is typical. See **Exhibit 6.23** for the appraiser's Reconstructed Operating Statement and explanation.

#### **E. Net Income**

Normal expenses subtracted from gross income produces normal net income. This is the figure ordinarily converted or capitalized into value. The word "normal" emphasizes that the concept reflects typical conditions and expectations. The word "net" explicitly says that the figure is net after allowable expenses. The word "income" recognizes that other income, in addition to rental income, may be included in the figure. Normal net income is income before debt service, depreciation allowances and taxes. Other terms used synonymously with normal net income include net operating income and net income before recapture.

#### **F. Capitalization Rates and Multipliers**

A capitalization rate is a rate used for conversion of income into value. In the appraisal of real property for assessment purposes, future income is discounted at a rate that reflects the worth of present money over future interest, taxes and depreciation, if applicable. The capitalization rate is a hoped for or an expected rate of return on the investment, and the rate necessary to attract the capital to the investment.

##### **A. Components of a Capitalization Rate**

The capitalization rate is made up of three separate parts: (1) the interest or discount rate, which provides for a return on the investment; (2) the recapture rate, which provides for return of the investment in the wasting assets and (3) an effective tax rate, which provides for an allowance for property taxes.

##### **1. Interest Rate**

Within the income approach the interest or discount rate may be described as the rate of return or yield necessary to attract investments in property. And, as the return may be realized by direct payment from the income stream of the property or through future sale, it is assumed that the interest rate required by investors for investing in property includes a provision for any expected appreciation



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or depreciation. Therefore, the interest rate applicable to a particular type of property may often be lower or higher, depending upon the risk, than so-called bank rates.



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#### EXHIBIT 6.23

##### RECONSTRUCTED OPERATING STATEMENT

<u>Items of Income &amp; Expenses</u>	<u>Accountant's Statement</u>	<u>Appraiser's Reconstructed Operating Statement</u>
Income:		
Actual rents received (1971)	\$ 34,278 (a)	\$ 34,200 (95%)
Expenses:		
Insurance (3-year premium)	\$ 1,500	\$ 500
Real Estate Taxes (1971)	5,937 (b)	-
Mortgage Interest	4,622 (c)	-
Depreciation (IRS)	3,500 (c)	-
Water & Sewer	1,282	1,300
Electricity	489	500
Payroll Expense (Janitor, etc.)	1,780	1,800
Replaced Roof Cover (15 Yr.)	2,500 (d)	125
Miscellaneous Cost	283	300
Maintenance & Repairs (int.-ext)	673	675
Redecorated 8 Apts. @ \$117	936 (e)	1,365
Replaced Equipment Furnished:		
12 Refrigerators @ \$150	1,800 (f)	350
8 Ranges @ \$125	1,000 (f)	292
Owner's Salary @ \$175 mo.	2,100 (g)	1,710
Professional Services	300	300
Total Expenses	\$ 28,702	\$ 9,217
Net Operating Income	\$ 5,576 (h)	\$ 24,983

##### Explanation of Reconstructed Operating Statement

- (a) The owner's statement shows an actual vacancy of 4.18%. This should be rounded to 5% since this is typical of similar properties.
- (b) Real estate taxes are included in the capitalization rate as an effective tax rate:  $33 \frac{1}{3} \times .065 = .0216$  tax rate.
- (c) Mortgage interest and IRS depreciation schedules are not part of the appraiser's operating statement.
- (d) New roof costs \$2,500.00. Probable useful life 20 years. Annual reserve for replacement equals \$2,500 divided by 20 or \$125.00.
- (e) Each apartment should be redecorated once every three years. Annual reserve equals \$117 divided by 3 = \$39 times 35 apts. = \$1,365.00.
- (f) Annual reserve is set up for replacement of ranges and refrigerators once every 15 years. Refrigerators  $35 \times \$150$  divided by 15 = \$350.00. Ranges  $35 \times \$125$  divided by 15 = \$292.00.
- (g) Owner pays himself a salary in lieu of a property manager. Competent professional management is available at 5% of effective gross income.
- (h) The amount of \$5,576 is net income after interest, depreciation and real estate taxes. The amount of \$24,983 is net income before depreciation and before real estate taxes. This is the figure converted into an indication of value by the assessor.



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The interest rate reflects the quality or degree of risk involved in an investment. Since all investments - real estate or otherwise - are in competition with each other, the interest rate selection for capitalization of an income stream produced by a real estate investment must be selected in relation to the rates received by competitive investment opportunities.

The most common methods of developing a capitalization rate are extraction of a capitalization rate from market sale/income data and a capitalization rate calculated through the band-of-investment technique. Both these methods as well as any of the other methods discussed later can be used by itself or in combination with another technique to estimate a capitalization rate for a particular property.

#### **2. Recapture Rate**

The return of the investment in a property may be accomplished in either one or a combination of two ways. One is return of the investment through a payment from the income stream. The other is a return of the investment (all or part) at the end of the term of ownership.

Within the capitalization process using the first method, the income attributable to the wasting asset (building or other) is capitalized at a rate which includes a provision, the recapture rate, to completely recapture the investment in the wasting asset by the end of its economic life. In this case, the recapture rate represents that percent of the income necessary to provide for a return **OF** the investment in the wasting asset.

To determine the applicable recapture rate, the appraiser must estimate the remaining economic life of the improvements. Economic life is not necessarily related to the physical life, but may be described as the period of time an investor would expect the income from the building to cover expenses and provide a return of the original investment.

The period of time buildings in the area have been in existence before being demolished, buying habits of the public and vacancies of long duration are guidelines to the economic life for different buildings. Dividing the economic life into one hundred will yield the indicated annual recapture rate.

$$\text{Recapture rate for 40 Year Economic Life} = 100 \div 40 = 2.5\%$$

The second method of providing for a return of an investment is called a reversion, and it is the present worth of the right to receive one lump sum payment (the estimated value the property will have) at the end of a specific term.



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### **3. Effective Tax Rate**

An allowance for property taxes is included in the capitalization rate of appraisals for assessment purposes. To expense property taxes would assume the value of the property is known. As a percentage, no matter what the final property value, the taxes will be the same proportional amount.

The rate used for taxes is determined by the relationship of the tax rate to the assessed value. In Missouri, commercial properties are assessed at 32%. If the tax rate was \$9.80 per \$100 assessed value, the effective tax rate would be calculated as follows:

$$\text{Effective Tax Rate: } 32\% \times (\$9.80 \div 100) = 3.14\%$$

Selecting the capitalization rate is the most crucial step in the income approach. Since a variance of only 1% in the capitalization rate has a considerable effect on the indicated value, these rates should be selected with great care. Generally speaking, the proper rates are those which the market reflects as those required by investors and the conditions of their purchase of a particular type of property.

### **B. Market Derived Rates and Multipliers**

Market analysis is the preferred method of obtaining capitalization rates. Actual selling prices of comparable properties can be related to the anticipated income. For example, when the total costs incurred in developing a new property are known, a rate can be derived from the relationship between the total investment and the investor's anticipated income. Income and rate analysis must be based upon the investor's anticipated income because an investment in property is directly related to the anticipated return.

A variation of the basic capitalization equation is  $R = I \div V$ . Where we know "V" (the sale price of the property) and "I" (the income attributable to the property), derivation of "R" becomes a simple mathematical computation. The selling price of the property is the stable element in the equation. The rate will vary according to the type of income processed - whether "I" is gross or some form of net income. Several types of rates can be obtained by using the different levels of income.

Regardless of the type of rate developed through the capitalization process, the rate must be applied to the same level of income from which it was derived. For example, an overall rate derived from a net income before recapture must be applied to a net operating income prior to the deduction for recapture.



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#### **1. Gross Rent Multipliers and Gross Income Multipliers**

The use of gross rent and or gross income multipliers in the appraisal process provides a rule of thumb method of valuation derived from the market data approach. They are used in comparing like properties of various classifications, including those which are income-bearing, primarily as checks on value estimates obtained through other techniques. The use of income multipliers is also considered a part of the income approach because value estimates produced by them are based upon rental values.

When gross income is used in the capitalization process, the relationship between **Income** and **Value** is usually expressed as a multiplier rather than as a rate. A multiplier is a factor and the reciprocal of a rate. In evaluating income-producing properties, especially where a satisfactory pattern of similar properties previously sold can be established, it is perhaps the simplest method of processing income into value.

In applying this method, the appraiser assembles and carefully examines available sales and rental records to ascertain prices at which properties comparable or nearly comparable to the one under appraisal have been sold and what rentals they commanded. The appraiser then divides the sales price by the market rent to arrive at a gross rent multiplier or gross income multiplier. This factor, applied to the market rent of the property under consideration, produces an estimate of value. In doing the analysis, it is important that the market rent at the time of the sale be used. Using actual rents that are below the market can lead to an overstatement of value when applied to current market rents.

This method is particularly applicable where there is a relatively high degree of comparability between the property being appraised and the sold properties used in the analysis. There must be a sufficient number of sales of like properties from which to obtain the factor used. No gross rent or gross income multiplier is sound if based upon only one or two property transactions. An illustration of its use in an appraisal is shown in **Exhibit 6.24**.

#### **2. Overall Rates**

An overall rate is the ratio of net operating income to the value of a property. Net operating income is gross income less vacancy and collection losses and all allowable operating expenses, but prior to deduction for recapture.

For example, if a property that was sold for \$200,000 was capable of producing a gross income of \$30,000 per year, an overall rate could be derived as follows:



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#### EXHIBIT 6.24

#### DEVELOPMENT AND APPLICATION OF GROSS RENT MULTIPLIERS

##### Development of Factor

Typical sales price for properties comparable with the one under appraisal.....	\$ 12,000
Typical monthly rental received from comparable properties.....	\$ 120
The gross income multiplier obtained by dividing \$12,000 by \$120 is.....	100

##### Application of Factor

Monthly rental being received or reasonably expected from the property under consideration.....	\$ 110
Application of predetermined factor results in a value estimate of \$110 x 100, or.....	\$ 11,000

Gross income multipliers can also be obtained by the use of annual instead of monthly rents, as follows:

Typical sales price.....	\$ 12,000
Typical annual rental.....	\$ 1,440
Gross income multiplier obtained by dividing \$12,000 by \$1,440.....	8.33
Annual rental received or reasonably expected from property under appraisal.....	\$ 1,320
Application of factor - \$1,320 x 8.33.....	\$ 11,000



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<i>Anticipated Gross Income</i>	<b>\$ 30,000</b>
<i>Less Vacancy and Collection Allowance (3%)</i>	<b>- 900</b>
<i>Effective Gross Income</i>	<b>\$29,100</b>
<i>Less Expenses</i>	<b>- 10,000</b>
<i>Net Operating Income</i>	<b>\$19,100</b>

**Overall Rate:**      $\$19,100 \div \$200,000 = .0955$  or     **9.5%**

Note that this rate expresses the relationship between the value of the entire property and the income stream. There is no separate indication as to the portion of the return allocated to the recapture of the improvements as opposed to the land. This limits the application of an overall rate, for it can be used only in the appraisal of properties which are highly comparable to the properties from which the rate was derived. The ratio of land to improvement value and the remaining life of the improvements are particularly important in this comparison.

### **3. Discount Rates**

A discount or interest rate is the anticipated annual percentage rate of return **ON** the investment. In the appraisal process it is derived from and applied to anticipated income. It is the ratio of net income after deducting recapture charges for a recovery of wasting assets to the value of the property.

This rate can be extracted from market data by methods similar to that employed in deriving an overall rate, except that a dollar value for the recapture of any wasting assets must also be subtracted from the income stream. For example, suppose that a subject property sold for \$200,000 and was capable of producing a gross income of \$30,000 per year. The sales price included an improvement valued at \$160,000 with a remaining economic life of forty years. A discount rate can be extracted as follows:

<i>Anticipated Gross Income</i>	<b>\$30,000</b>
<i>Less Vacancy &amp; Collection Allowance (3%)</i>	<b>- 900</b>
<i>Effective Gross Income</i>	<b>\$29,100</b>
<i>Less Expenses</i>	<b>- 10,000</b>
<i>Net Operating Income</i>	<b>\$19,100</b>
<i>Less Annual Recapture Charge</i> $(\$160,000 \div 40 \text{ Years})^*$	<b>- 4,000</b>
<i>Net Income</i>	<b>\$15,100</b>

**Discount Rate:**      $\$15,100 \div \$200,000 = .0755$  or     **7.6%**

*\*Assuming equal annual decline in value of improvement*





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The discount rate contains components for interest, liquidity, investment management, and risk. Additionally, the capitalization rate must also provide for the return **OF** that portion of the investment that declines in value (recapture), and the capitalization rate used to appraise property for tax purposes must also include a component for property taxes (an effective tax rate).

The use of a discount rate in capitalization has certain advantages. A discount rate can generally be applied to a much wider range of properties than an overall rate or a gross rent multiplier as properties used to derive these rates need not be as comparable to the subject.

For example, owners of commercial property in a given area may expect a certain yield on their investment regardless of the age and size of the improvements. Variable recapture components in the capitalization rate will compensate for differences in anticipated life expectancies.

#### **C. Band-Of-Investment Method**

A discount rate can be determined by the band-of-investment method. This method is based on the premise that the rate is the weighted average of the different bands or portions of the investment. The two major portions are the debt and equity investments that apply to a property and the respective yield or return rate that each portion attracts. Debt typically consists of a first mortgage and perhaps a second or third mortgage. The appraiser can usually determine current rates for mortgage money and the percent of the total property value covered by the mortgage. The expected rate of return on equity is more difficult to estimate, and this is the basic weakness of the method.

For an example of a band-of-investment rate derivation, assume that a buyer could finance 80% of the purchase price of a property with a loan at 10% interest. In addition, he expects to receive a 12% return on the equity investment. The weighted average of these different components can be computed as follows:

<i>Mortgage Component</i>	<i>.80 x .10 =</i>	<i>.080</i>
<i>Equity Component</i>	<i>.20 x .12 =</i>	<i>+ .024</i>
<i>Total Rate</i>		<i>.104</i>
	<i>or</i>	<i>10.4%</i>

This discount or interest rate does not consider a recapture of any wasting assets or an allowance for taxes. An effective tax rate can be computed as indicated earlier in this document.

#### **3. Capitalization Methods**

Capitalization in the appraisal process is the method by which the value of the property can be



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estimated from the quantity, quality and durability of its net income expectancy. To convert net income estimates into an indication of value, an understanding of the available capitalization methods is essential.

The methods of capitalizing income are all accepted methods, but they will produce different answers when all other conditions are unchanged. The problem that faces the appraiser is the determination of the proper method to be used. The appropriate method must reflect the type of income stream and the expectations of the investors who constitute the market for the property type being appraised.

A summation of the behavior of the income stream with respect to income, discount and recapture is illustrated in **Exhibit 6.25**. These matters must be estimated from analysis of market data.



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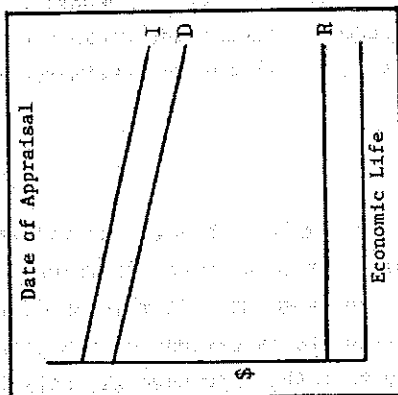
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### EXHIBIT 6.25

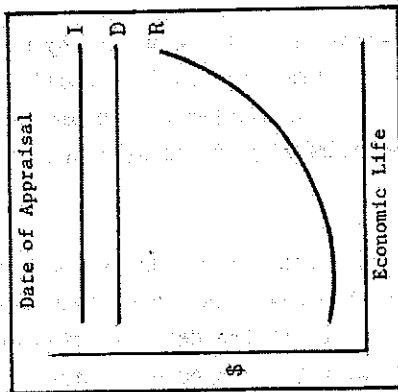
#### ANALYSIS OF INCOME STREAM & CAPITALIZATION METHODS

##### Straight Line



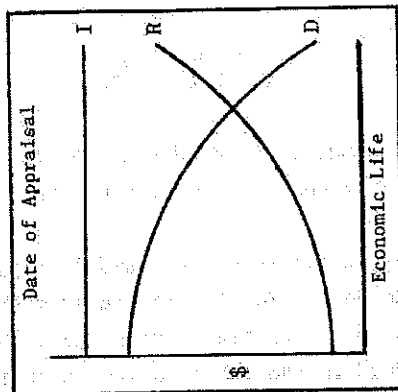
1. Income decreases as property age increases.
2. Recapture is received in equal amounts during the economic life of the improvement.
3. Discount is received on the balance of the investment.

##### Sinking Fund



1. Income remains constant over time.
2. Recapture is invested at a safe rate in a sinking fund.
3. Discount is received each year on the total original investment in the depreciating asset.

##### Annuity



1. Income remains constant over time.
2. Discount based on remaining life of improvement and decreases over time.
3. Recapture increases by the amount that discount decreases.



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#### **A. Direct Capitalization**

Direct Capitalization is the simplest form of capitalization. This method can be used to indicate a total property value for a property composed of both land and improvements. In this process a net income attributable to the property is divided by a proper overall rate ( $V = I \div R$ ). An **overall rate (OAR)** expresses the relationship between the entire property and its income stream. Direct capitalization contains built-in considerations for the recapture of the wasting asset and for all other factors considered by the market. When appraising for assessment purposes, an effective tax rate must be added to the overall rate prior to capitalization. The steps used in developing a valuation indication through direct capitalization by using an overall rate derived from market analysis are described as follows:

1. Research the market for sales prices of similar properties for which the net income is known or can be accurately estimated.
2. Using the relationship that income divided by value equals rate ( $I \div V = R$ ), develop the overall rate for each sale.
3. From the pattern of rates thus derived, select the overall rate considered applicable to the properties being appraised.
4. Using the relationship that value equals income divided by rate ( $V = I \div R$ ), capitalize the net income projection for the properties being appraised at the derived rate to arrive at a value indication through direct capitalization.

The advantages of direct capitalization using a market-developed **OAR** are that the procedure is easily understood by the public, it is based upon market evidence and it is easy to apply. Of course, the appraiser when applying this method to an improved property must allocate the total property value into values applicable to land and improvements.

The disadvantage of this method is that a market derived rate is applicable only to closely comparable properties when improvements are involved. Because an overall rate contains a component for recapture of the wasting asset and is used to capitalize all income generated by the property, the ratio of land to improvement value becomes important in rate application. A rate application to a property where half the total value is land, would not be applicable to a property where land value is significantly greater or a lesser portion of the overall value, even though the improvements are basically similar.



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#### **B. Mortgage-Equity Capitalization**

The big difference between the mortgage-equity method and other capitalization methods is in the consideration of mortgage terms and equity yields as factors influencing the overall rate of return. Unlike other methods, mortgage-equity capitalization does not disregard mortgage terms or view a property as if free and clear. Instead, the mortgage-equity appraiser looks at mortgage financing as the life blood of real estate investments. This recognizes that the typical investor will seek the best mortgage financing available in order to get a maximum yield on a minimum down payment.

The "Ellwood Tables for Real Estate Appraising and Financing", published for the American Institute of Real Estate Appraisers (AIREA), provides the complete system for mortgage-equity capitalization. The publication consists of two parts. Part I was written to assist the appraiser in using the tables contained in Part II. Part II contains a complete set of compound interest tables, tables of mortgage coefficients for computing capitalization rates, tables of pre-computed basic capitalization rates and other special tables designed for real estate investment problems.

There are two basic techniques within the mortgage-equity capitalization premise: (1) the band-of-investment technique and (2) the discounted cash flow technique. One technique uses the band-of-investment method with the rate derivation being explained algebraically (Ellwood Method) or non-algebraically (Akerson Method or Ellwood without Algebra). In the other technique, the property value is developed by discounting the various cash flows generated by all elements of the real estate transaction. While the procedure for deriving the property's value may differ, the value derived is the same if the specified financial assumptions are similar.

##### **1. Band-of-Investment**

In the band-of-investment method, the mortgage-equity appraiser converts income into value by employing traditional capitalization techniques, usually direct capitalization with an overall capitalization rate.

This is accomplished by following the familiar steps viewed below:

1. Examination of the lease and/or local rental market, and an estimation of the annual net income which could be expected by an investor.
2. Examination of the market to discern a plausible relationship between annual earnings and value and expressing this relationship as an overall rate or capitalization rate. The development of this rate is explained in a previous section of this chapter.



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**3.** Capitalizing the expected earnings by dividing the annual net income by the overall rate in order to obtain an indication of property value. It will be recognized immediately that these are the same steps followed in any appraisal using direct capitalization with an overall rate. In this sense mortgage-equity appraising is traditional and not unique.

In the band-of-investment method, one method of rate development is through application of the Ellwood Method. This method employs the use of an algebraic equation that was introduced in 1959 by Pete Ellwood. The equation and tables were introduced to simplify the work of capitalizing or discounting the income flows to real property.<sup>36</sup> The property's value is determined by dividing the capitalization rate into a level annual income.

Because the rate developed by Ellwood is divided into a single expression of income, the valuation equation assumes that the income is stabilized into perpetuity.

#### **C. Discounted Cash Flow**

In many instances, income streams are irregular and do not always conform to the patterns that are basic to traditional capitalization methods. In these situations the appraiser must use a method of capitalization that translates these variable income streams into a present worth estimate. Since the Ellwood Method was designed as a method of discounted cash flow analysis based upon a level annuity, it is losing favor with appraisers today because of the availability of computerized **Discounted Cash Flow (DCF)** models.

Through Discounted Cash Flow analysis, each periodic income payment is discounted into a present value equivalent. Then the sum of these discounted values represents the present worth of the right to receive these future income payments.

The logic of DCF is simple and direct, and the technology for its use is widely available through standard software packages and calculators. The use of computers in processing the data necessary for Discounted Cash Flow analysis makes it possible for the appraiser's efforts to be better spent in making projections of realistic cash flows and rates of return. The use of computers also makes it easily possible to perform several Discounted Cash Flow Analyses using different investment scenarios.

The process of Discounted Cash Flow begins with the development of a detailed spreadsheet where the appraiser itemizes the individual net cash flow projections on a year-by-year basis over the

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<sup>36</sup> "Ellwood Tables for Real Estate Appraising and Financing", 4th Edition, published for the AIREA by Ballinger Publishing Company.



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expected holding period by the investor. These individual net cash flows are then discounted into an indicated present worth using an expected or typical rate of return.

The Discounted Cash Flow analysis can also be used to develop a rate of return that is indicated by a series of cash flow payments. This process is called an internal rate of return (IRR) analysis. The IRR is the rate of return that is produced by the investment during the period of ownership. It is similar to and also thought of as a discount rate, which is explained earlier in this chapter.

Discounted Cash Flow techniques have some disadvantages. Discounted Cash Flow analysis is usually applied to future expectations. Therefore, it is important that the appraiser analyze historical investment data in order to make realistic projections of future expectations. The appearance of the preciseness of DCF can suggest that this technique has a greater degree of accuracy than is warranted, and that the rates applied may be highly subjective.

As an example of DCF, an appraiser is valuing a property that is currently producing an annual net income of \$10,000, with an anticipated annual increase of 3% per year. The typical market interest rate for this type property is 12%, with a typical holding period of 5 years. The projected market value of the property at the end of the 5 years is \$150,000. The example of DCF is illustrated as follows:

<u>YEAR</u>	<u>NET INCOME</u>		<u>PRESENT WORTH FACTOR</u>	<u>PRESENT WORTH</u>
<i>Income Stream</i>				
1	\$10,000	x	0.892857	\$8,929
2	10,300	x	0.797194	8,211
3	10,609	x	0.711780	7,551
4	10,927	x	0.635518	6,944
5	11,255	x	0.567427	<u>6,386</u>
<i>Total Value of Income Stream</i>				38,021
<i>Reversionary Value of Resale</i>				
	\$150,000	x	.567427	<u>85,114</u>
<i>Total Value of Property</i>			\$123,135	
<i>Say</i>				\$123,000

(.567427 = Present worth of \$1 factor for 5 years @ 12%)

The above example considers net income. In a more detailed discounted cash flow analysis consideration would be given to periodic increases in expenses such as property insurance, property



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taxes, maintenance cost, etc. over the time period analyzed. Consideration of periodic increases in income and expenses are particularly crucial when a long holding period is being considered.

### SUMMARY

Real estate is an investment, and as such, competes with other kinds of investments. Therefore, the investor must weigh the factors inherent in the ownership of real estate and their relation to the possible monetary benefits of investing the money associated with financing the real estate purchase into a competing investment. The assessor must be aware of the decisions made by investors in the market and how they impact upon the value of property. A review of the Income Approach is shown in **Exhibit 6.26**. A demonstration problem illustrating application of the Income Approach is shown in **Exhibit 6.27**.

### 6.5 Reconciliation of Value/Correlation

After all the data has been obtained and processed into different indicators of value for each approach, the next step is the review and correlation process. In some cases there will be three separate indicators of value. However in other instances, because of either inappropriateness or lack of data, one or more of the approaches may not be completed.

The assessor/appraiser is seeking to estimate the property's value as defined in the appraisal problem. The essence of correlation is an attempt to explain or reconcile differences that may exist between the different indicators of value into a final value estimate. The correlation process provides the opportunity to review each approach to value by examining the critical judgments made, the reliability of the data and the validity of each approach as a measure of value for the subject property. Since correlation is an analytical tool based upon judgment, the application of a mathematical formula is considered to be an unacceptable method of correlating these value indications. The assessor/appraiser's task is to apply qualitative judgment, rather than quantitative mathematics.

At this time, the cost approach should be reviewed for the proper application of the cost concept. In reviewing this approach, the assessor/appraiser considers the relative reliability of the land value estimate, whether the reproduction or replacement cost new has been properly estimated, whether a proper estimate of depreciation (physical deterioration, functional obsolescence and economic obsolescence) has been made, and whether the building reflects the highest and best use of the site.





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#### EXHIBIT 6.26

##### Income Expense Analysis

The steps for arriving at net income before discount, recapture, and taxes are the following: (1) estimate potential gross income, (2) deduct for vacancy and collection loss, (3) add miscellaneous income, (4) determine operating expenses, and (5) deduct operating expenses. Following is a step-by-step delineation of the processes thus far described.

##### Gross Income Estimates

Potential gross income is economic rent for the property at 100 percent occupancy. From such sources as buyers and sellers, commercial property managers, realtors, and public records, rental market data must be collected.

1. Leases--ordinarily detail the terms and other factors reflecting considerations between tenant and owner.
2. Types of leases--month to month, short term, long term, percentage, graduated renewal.
3. Lease considerations--date, name of owner and tenant, reference, legal description, term, amount of rent, owner's and tenant's responsibilities, right to sublease, option to renew, tenant improvements, security, termination, special provisions.
4. Types of rent--contract, excess, percentage, minimum, overage, economic.
5. Rental units of comparison--square foot, room, apartment, space, percentage of gross business income, gross leasable area (GLA), net leasable area (NLA).

##### Effective Gross Income Estimates

Effective gross income is potential gross income less vacancy and collection loss, plus appropriate miscellaneous income.

1. Vacancy--a necessary deduction, since property will not remain fully rented for entire period of life; determined by study of comparable properties and analysis of their rental histories.
2. Collection loss--the loss resulting from the failure of tenants to pay the rent.
3. Miscellaneous income--income from sources other than actual rent (parking, resale of utilities).

##### Net Income Estimates

Net income is the income remaining after the allowance for vacancy and collection loss and after subtraction of operating expenses from potential gross income plus miscellaneous expenses.

1. Operating expenses--thorough analysis necessary to determine proper and improper expenses; include operating expenses, reserves for replacement.
2. Proper expenses--include management, salaries, utilities, supplies, materials, repairs and maintenance, property taxes, insurance, miscellaneous reserves for replacement.
3. Improper expenses--include depreciation, debt service, income taxes, capital improvements, owner's business expenses.
4. Operating expense ratios--provide a quick check on the expense figures for comparable properties.

##### Capitalization Formulas and Rates

An understanding of the capitalization rate and its components is essential to utilization of the capitalization methods and techniques. Knowledge of the development of the discount rate, the recapture rate, and the effective tax rate is primary to the understanding of income-producing property as an investment. To reach a final value conclusion in the income approach, future income and the value indication must be linked, and the link is the capitalization rate. The capitalization rate and formulas can be summarized as follows:

##### Basic Formulas

There are three basic capitalization formulas for arriving at income, value and rate.

1.  $V = I \div R$ --value equals income divided by rate.
2.  $R = I \div V$ --rate equals income divided by value.
3.  $I = R \times V$ --income equals rate times value.



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#### EXHIBIT 6.27

##### DEMONSTRATION PROBLEM RETAIL/OFFICE BUILDING

The subject property is located in the central business district and is an old two story building built in 1928 containing a total of 6,500 square feet of leasable area on each floor. The first floor contains retail space rentable at \$1.20/sq. ft. and the second floor contains office space rentable at \$3.00/sq. ft. on short-term leases. The vacancy and credit loss for comparable properties is about 8%. The owner has submitted the following expense statement:

##### Retail/Office Building (Statement of Expenses, January 1 - December 31)

Taxes.....	\$ 2,640
Insurance (3 years).....	1,192
Mortgage Payment.....	6,477
Utility.....	2,285
Maintenance.....	1,378
Management.....	3,972
New Roof (15 years Life).....	4,500
New Heating System (20 year Life).....	11,969
TOTAL EXPENSE.....	\$34,413

You have determined that lenders are willing to make first mortgage at 9 3/4% on 65% of the property value, second mortgages at 13% on 15% of the value. The 20% equity can be attracted at a rate of 14%. The remaining economic life for the building is 20 years. The tax rate in the jurisdiction is \$6.50 per \$100 of assessed value at 33 1/3% of true value. The land value, on the basis of comparable sales, is \$30,000. On the basis of this information the application of the income approach would be shown as follows:

Gross Possible Income:	
Retail Space (6,500 sq. ft. @ \$7.20).....	\$ 7,400
Office Space (6,500 sq. ft. @ \$3.00).....	19,500
TOTAL GROSS INCOME.....	\$27,300
Less Vacancy & Credit Loss (8%).....	2,200
Effective Gross Income.....	\$25,100
Operating Expenses:	
Insurance.....	\$ 400
Utilities.....	2,300
Maintenance.....	1,400
Management.....	4,000
Reserves:	
Roof (\$4,500 ÷ 15 years).....	300
Heating system (\$11,969 ÷ 20 years).....	600
TOTAL.....	\$9,000
Net OPERATING INCOME BEFORE DISCOUNT, RECAPTURE, AND TAXES.....	\$16,100

The capitalization method and technique must now be selected. Since the land value is known, the building appears to represent the highest and best use for the land, and the building is old, the building residual technique should be used. The straight-line method of capitalization should be used because of the short-term lessor and the age of the improvements. Therefore, we can estimate the value of the property as follows:

NOI before discount, recapture, and taxes.....	\$16,100
Discount Rate (By Band of Investment)	
65% First Mortgage (.65 x .0975).....	.0634
15% Second Mortgage (.15 x .13).....	.0195
20% Equity (.20 x .14).....	.0280
	.1109
Discount Rate (Rounded).....	11.1%
Effective Tax Rate (.085 x .333).....	2.2
Recapture Rate (100% ÷ 20 years).....	5.0
Rate For Building (11.1% + 2.2% + 5%).....	18.3%
Rate For Land (11.1% + 2.2%).....	13.3
Income to Land (\$30,000 x .133).....	3,990
Income Residual to Building.....	\$12,110
Building Value (\$12,110 ÷ .183).....	66,175
Land Value.....	30,000
PROPERTY VALUE.....	\$96,175
ROUNDED TO.....	\$96,000



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The review of the sales comparison approach should involve a critical analysis of all adjustments made, the amount of available market data and the comparability of the subject property to the comparable sales used in the adjustment process. The sales comparison approach is generally the preferred approach.

In reviewing the income approach, the appraiser should re-examine his or her estimates to determine whether the gross income and operating expense have been properly forecasted, that the capitalization rate used was a reflection of the market and that the final value estimate was based upon the application of the appropriate method and/or technique.

A summary of the three approaches to value is shown in **Exhibit 6.28**.

After a complete and thorough analysis of the appraisal frame work, the assessor/appraiser must then develop a final value conclusion. After arriving at an opinion of value, he or she should check it once more by asking whether this figure is a realistic, probable selling price for the property consistent with the market value concept. Once the total property value conclusion is reached, an assessor then allocates value between the land and improvements. It is an acceptable practice to take the land value estimate used in the cost approach, since this is the more stable element, and subtract this amount from the total appraised value to derive the value attributable to the improvement.



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#### EXHIBIT 6.28

#### SUMMARY OF THE THREE APPROACHES TO VALUE

##### MARKET DATA APPROACH

Value of property being appraised is based on prices at which comparable properties have sold or for which they can be acquired. A direct comparison of one whole property with another whole property.

##### Most Applicable

To all properties where satisfactory evidence is available.

##### Limitations

Difficult to find properties exactly comparable.

Lack of sales is specific types of property or in the area.

Sales evidence from a prior date, not comparable.

Frequent lack of knowledge about conditions or motives influencing sale or purchase.

Information may be hearsay if not fully documented.

##### COST APPROACH

Estimate of land value added to depreciated reproduction or replacement cost new of the buildings and equipment.

##### Most Applicable

To new single-family homes of approved and accepted design in suitable neighborhood.

To special use or service properties such as:

Schools  
Hospitals  
Churches  
Clubs & Lodges  
Institutions  
Municipal & Government Buildings

To special purpose properties such as:  
Oil Refineries  
Bridges  
Transportation Terminals

To estimate cost of repair for modernization and rehabilitation.

To estimate the contributing value of non-comparable items for the income and market data approaches.

##### Limitations

Difficult to estimate accrued depreciation in older or obsolete buildings.

##### INCOME APPROACH

Based on assumption that value of property tends to be set by amount of future net income reasonable expected. Also called capitalization approach.

##### Most Applicable

To income producing property such as:  
Apartment Buildings  
Office Buildings  
Store Buildings

To estimate obsolescence and accrued depreciation in structures by residual method.

To residential, small commercial, and small apartment buildings by gross rent multipliers.

##### Limitations

Requires many assumptions and estimates. Error in capitalization rate makes considerable difference in value.

Not applicable to single-family residence except by gross rent multipliers.

Inwood Table usable only when income has characteristics of an annuity.

Straight-line capitalization usable only when declining income anticipated.



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### Supplement

This supplement discusses Valuation techniques that are less used in Ad Valorem Valuation. Neither the supplement nor the main body of this document is meant to be an all inclusive manual on Ad Valorem Valuation. However it does include information that should be helpful to an assessor and or real estate appraiser. The assessor and or appraiser should obtain additional knowledge and education in real estate appraisal - especially in the area of the *Uniform Standards of Professional Appraisal Practice*.

### Land Valuation

#### **A. Subdivision Development Analysis**

The Subdivision Development Analysis would be used to value large undeveloped tracts that have a definite potential for residential, commercial or industrial subdivision. It should be used only if sales of similar land are not available. It involves deriving an estimate of the ultimate sales price of the subdivided tract, less the cost of development, mitigation, financing, and entrepreneurial profit, then discounting this net income to present value over the estimated period of absorption of the lots, at a market-indicated rate.

In reflecting the increase in land value resulting from the creation of building lots or subdivisions out of acreage, the assessor must examine land sales closely to estimate the value to be placed upon the new lots and the effect of their sale on adjacent land. Rapid changes in land use affect not only values but also methods of valuation. Land destined for change from rural to urban use may be evaluated as a potential subdivision suitable for residential, commercial, industrial, or a combination of uses in the following manner:

1. Determine the type of subdivision that would produce the highest and best use of the particular location.
2. Study and lay out a subdivision plan to develop the total number of sites that could be available for sale.
3. Determine the total probable gross sales price of all lots.
4. Estimate the total development and administrative costs to include engineering fees, costs of streets and utilities, advertising sales costs, taxes and inspection fees, financing fees, etc.
5. Deduct these direct expenses for development from the total probable gross sales price.



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6. Deduct an adequate profit allowance for the developer.
7. Determine the total number of years necessary for the development and market acquirement of the project.
8. Discount the annual net income flow over the time needed for completion and market consumption of the project to determine the total present worth of these future cash receipts.

The total of these discounted cash flows represents the price at which the land can reasonably be expected to sell and reflects the price a developer would be justified in paying for the raw land under the assumptions made. In fixing the amounts at which sites can be sold, the appraiser must assume either (1) that prices of sites will remain constant during development or (2) that they will increase or decrease. Also, planning for future sales should be guided by data on other developments in the area; therefore, a marketability study may be needed. An example of the land development method is shown in **Exhibit 6.29**.



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#### EXHIBIT 6.29

##### LAND VALUATION

##### ANTICIPATED USE/DEVELOPMENT METHOD

**PROBLEM:** Assume a 100 acre parcel of raw land in an area about 80% built-up. This the only vacant land remaining in the area, and there is an increasing demand for residential properties. Market data in the area indicate that improved properties, comparable to homes that could be built and sold in this proposed development, are selling for about \$20,000.00; an analysis shows that about fifteen percent (15%) of the total property value is allocated to land value.

It is estimated that you can develop five lots to the acre after streets have been laid out. Development costs are estimated at 45% of gross, selling expenses at 15%, and overhead and profit at 20%. It will take three years to sell the lots--1st year, 100 sales; 2nd year, 200 sales; 3rd year, 200 sales.

Improved properties selling at about \$20,000	
Land Values =	15%
Value Per Lot	\$ 3,000
100 acres x 5 Lots x \$3,000 = Gross Income of	\$1,500,000
Less: Development Cost 45%	\$675,000
Selling Expense 15%	225,000
Profit: 20% of Gross	300,000
Total Expense and Profit	\$1,200,000
	<u>-\$1,200,000</u>
	\$ 300,000

Raw Land Value \$ 300,000

##### Land Sale Deferrals:

##### Sales 1st year:

100 lots or 1/5 of total  
1/5 of \$300,000 = \$60,000  
\$60,000 deferred 1 year @ 6% (.943)<sup>1</sup> \$ 56,580

##### Sales 2nd year:

200 lots or 2/5 of total  
2/5 of \$300,000 = \$120,000  
\$120,000 for 2 years @ 6% (.890)<sup>2</sup> \$ 106,800

##### Sales 3rd year:

200 lots or 2/5 of total  
2/5 of \$300,000 = \$120,000  
\$120,000 for 3 years @ 6% (.8396)<sup>3</sup> \$ 100,752

Present value of \$300,000 deferred partially one, two and three years. \$ 264,132

Market Value Per Acre \$ 2,600

1. Present worth factor of 1, at 6%, for 1 year.
2. Present worth factor of 1, at 6%, for 2 years.
3. Present worth factor of 1, at 6%, for 3 years.



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#### **B. Capitalization of Ground Rent**

This method employs the income approach to value, which is based on the premise that value is the present worth of future benefits of property ownership. The market rent of the subject site is estimated, a net income is calculated, and a capitalization rate selected. The net income is then capitalized into an indication of value.

For the purposes of demonstration, a market study indicates that the subject site would rent or lease for a net income of \$1,000 per year with a land capitalization rate of 10%. The net income would be capitalized into values as follows:

$$\$1,000 \div 10\% = \underline{\underline{\$10,000}}$$

#### **C. Land Residual Capitalization**

This method somewhat parallels the anticipated use or development method of land valuation in that the highest and best use of the land is projected. It may be an office building, apartment house or shopping center, etc., which may or may not represent the existing use of the property. A new building, hypothetical or actual, representing the most profitable use is projected.

The net income earned by the total property, land and building as a unit, is projected from market data. The cost or contributory value of the building and other improvements is established. The income attributable to the building and other improvements is calculated and deducted from the total net income. The remaining net income, attributable to the land, is capitalized at the appropriate rate to determine a value indication of the land. An illustration of the land residual technique is shown in **Exhibit 6.30**.





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#### EXHIBIT 6.30

#### LAND VALUATION

#### CAPITALIZATION - LAND RESIDUAL

**PROBLEM:** Assume you are appraising a plot of land 100' x 150' on which there is a building, the replacement cost less depreciation of which is estimated at \$200,000.00. The net income of the property is \$30,000.00. There have been no current vacant land sale from which to derive an estimate of market value attributable to the land.

*Building rate determination:*

Return on investment	9%
Return of investment (future depreciation)	2%
	<u>11%</u>

Building Value x Rate = Building Income

$$\$200,000 \times 11\% = \$22,000$$

*Therefore:*

Net income to property \$30,000

Less: NET INCOME TO BUILDING -22,000

Net income to land \$ 8,000

Land capitalization rate 9%

(Return on investment only--no depreciation)

Capitalized value of land

$$\begin{array}{r} \$8,000 \\ \hline 9\% \end{array} = \$88,889 = \text{Rounded } \$89,000$$

*Therefore:*

Land value by capitalization \$ 89,000

Building value by cost \$200,000

Total value of property \$289,000



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## Income Approach

### A. Band-Of-Investment Method

The first portion of this section is a repeat of information already covered in the main body of this document but was included again because it is the basis of a more detailed analyses that follows.

A discount rate can be determined by the band-of-investment method. This method is based on the premise that the rate is the weighted average of the different bands or portions of the investment. The two major portions are the debt and equity investments that apply to a property and the respective yield or return rate that each portion attracts. Debt typically consists of a first mortgage and perhaps a second or third mortgage. The appraiser can usually determine current rates for mortgage money and the percent of the total property value covered by the mortgage. The expected rate of return on equity is more difficult to estimate, and this is the basic weakness of the method.

For an example of a band-of-investment rate derivation, assume that a buyer could finance 80% of the purchase price of a property with a loan at 10% interest. In addition, he expects to receive a 12% return on the equity investment. The weighted average of these different components can be computed as follows:

<i>Mortgage Component</i>	<i>.80 x .10 =</i>	<i>.080</i>
<i>Equity Component</i>	<i>.20 x .12 =</i>	<i>+ .024</i>
<i>Total Rate</i>		<i>.104</i>
	<i>or</i>	<i>10.4%</i>

This discount or interest rate does not consider a recapture of any wasting assets or an allowance for taxes. An effective tax rate can be computed as indicated earlier in this document.

This method of rate derivation is most valid when the expected return on equity is based on market analysis. A yield rate can be derived from sales of properties with similar investment potential and where current interest rates and loan ratios are known. The equity return can be extracted using the same basic mathematical technique used in the yield rate derivation.

For example, assume that the appropriate discount rate extracted from the market is 10.4% and mortgage money is available at 10% interest for 80% of the purchase price of a property. The equity position equals 100% less the mortgage loan amount.



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<i>Discount Rate</i>		<i>.104</i>
<i>Mortgage Component</i>	<i>(.80 x .10)</i>	<i>- .080</i>
<i>Equity Component</i>		<i>.024</i>

*The equity position equals 20% (100% - 80%)*

<i>Equity Return = Equity Component</i>	<i>÷ Equity Position</i>	
<i>Equity Return = .024</i>	<i>÷ .20</i>	<i>= .12</i>
		<i>or 12%</i>

Of course, if a discount rate can be derived directly from the sales of similar properties, there is no point in developing a discount rate by the band-of-investment method. However an equity return rate is often derived from sales of properties not closely comparable to the subject but they may be similar in their investment potential. The expected rate of return on equity may be applicable to a broad range of properties even though the terms of available debt financing may vary.

One of the basic techniques within the mortgage-equity capitalization premise is the Band-of-Investment Technique. In the non-algebraic or Ellwood Method without Algebra, the band-of-investment rate development procedure is used to develop the basic rate. The band-of-investment procedure used is similar to the process applied in the previous section to develop a discount rate. The band-of-investment discount rate is the equivalent of the basic mortgage equity overall rate only when an investment is financed with an interest-only loan. With this type of financing, the value of a property is the full value of the loan plus the value of the equity. If there is no change in the total value of the property and no loan amortization during the holding period of the property, there will be no change in the relationship of the equity and debt positions. Therefore, when an amortization component is not required and there is no change in the value of the property during the holding period, the discount rate and the overall capitalization rate are the same.

However, in mortgage-equity rate development, the mortgage constant, not the loan interest rate, is used to calculate the mortgage or debt component of the overall rate. The reason for using the mortgage constant is to account for the amortization of the loan which increases the equity position. In mortgage-equity rate development, the terms of the mortgage and the required equity return are directly considered in deriving an overall rate.

### **1. Loan Amortization and Equity Buildup**

Interest-only loans are seldom made in real estate transactions. Most mortgage loans require periodic principal payments in addition to interest. The usual method of repayment involves periodic equal payments that amortize the principal and pay interest over the life of the contract. In other words, the



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payment schedule is a level terminating annuity. A capitalization rate for a level terminating annuity can be obtained from standard compound interest and annuity tables. It is the partial payment constant, sometimes called the mortgage constant. This constant may be defined as a periodic level payment needed to amortize and pay interest on a loan over the stipulated term, expressed as a percent of the principle. Expressed in the terms of the basic capitalization formula  $R = I \div V$ , it is "R" when "I" equals the periodic repayment of the loan including principal and interest and "V" equals the face value of the loan. Using this rate in the band-of-investment method, we can derive an overall rate for an amortization loan. For example, assume an 80% loan at 10% interest for 20 years, payments to be made in equal annual installments containing both principal and interest and an expected return on equity of 12%. An overall rate can be developed as follows:

<i>Debt Component</i>	<i>.80 x .11746</i>	<i>.094</i>
<i>Equity Component</i>	<i>.20 x .12</i>	<i>+ .024</i>
<i>Overall Rate</i>		<i>.118</i>
		<i>or 11.8%</i>

*(.11746 = Equals Mortgage Constant @ 10% for 20 Years)*

If this loan were to be paid with equal monthly payments containing principal and interest, the annual mortgage constant could be obtained by multiplying the appropriate monthly partial payment rate by twelve.

This overall rate can be used to capitalize net income into a value estimate but it does not necessarily reflect long-term prospects of a true yield. It is based on the relationship of the equity and debt (20% and 80%) that exists at the beginning of the loan term. It does not take into account the constantly changing relationship between these two factors. As loan payments are made, the equity portion increases and debt portion decreases. This changing relationship would not be significant if the interest rate on debt and the return rate on equity were the same, but an investor normally desires a rate of return on equity higher than the interest rate he pays. Over a period of time, this results in a buildup in equity that must be recognized if an accurate overall rate is to be derived. An adjustment is made by deducting a credit for an equity buildup from the previously established overall rate. The deduction is necessary because the component for amortization included in the previously established overall rate is too high. If the borrower made annual deposits in a separate debt retirement fund receiving 12% interest, the cost to duplicate debt retirement would be less than indicated in the overall rate for debt service.

The equity buildup adjustment is computed using a sinking fund factor. A sinking fund factor provides the periodic deposit required to accumulate \$1.00 in a given number of periods when the deposit earns interest at a given rate. In other words, it is the portion of the value of the loan that



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must be deposited periodically at a given interest rate to reach the full value of the loan at the end of the stated term. This factor must be applied only on the debt portion of the weighted average. Using the same terms previously stated, an adjusted overall rate is computed as follows:

<i>Debt Component</i>	<i>.80 x .11746</i>	<i>.0940</i>
<i>Equity Component</i>	<i>.20 x .12</i>	<i>+ .0240</i>
<i>Unadjusted overall rate</i>		<i>.1180</i>
<i>Less Credit for Equity Build-Up</i>	<i>.80 x .013879</i>	<i>- .0111</i>
<i>Equity Adjustment Overall Rate</i>		<i>.1069</i>

*(.11746 = Mortgage Constant @ 10% for 20 Years)*

*(.013879 = Sinking Fund Factor @ 12% for 20 Years)*

The basic mortgage equity capitalization rate presumes an "interest only" loan that does not require a gradual reduction of principal and is not based on any definite term. The mortgage-equity capitalization overall rates previously developed in this section are based on the full term of the loan and would not be valid for a lesser term. In a sophisticated real estate market, investors often sell their properties after only 5 to 10 years to minimize income taxes and to maximize the return on their investments. An adjustment for a holding period less than the full term can be estimated by simple interpolation, but this adjustment can be more accurately determined by changing the computation of the credit for equity buildup. The sinking fund factor used in this computation must be for the shorter period of time and must be multiplied by the percentage of the loan that would be paid off during this shorter period. Using the same mortgage term and equity yield given in the previous examples, we can now compute a capitalization rate for an investment that is to be held for ten years.

<i>Debt Component</i>	<i>.80 x .11746</i>	<i>.0940</i>
<i>Equity Component</i>	<i>.20 x .12</i>	<i>+ .0240</i>
<i>Unadjusted Overall Rate</i>		<i>.1180</i>
<i>Credit for Equity Build-Up</i>	<i>.2782 x .80 x .056984</i>	<i>- .0127</i>
<i>Equity Adjusted Overall Rate</i>		<i>.1053</i>

*(.2782 = Portion of principal that has been paid after 10 years)*

*(.80 = Loan percent of original investment)*

*(.056984 = Sinking Fund Factor @ 12% for 10 years)*

This rate is higher than the basic discount rate (10.4%) and lower than the full-term adjusted overall rate (10.7%). Note that a simple interpolation between these two percentages will result in a rate very similar to the mathematically computed rate (10.55%).



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One other market consideration can be incorporated in the mortgage-equity overall rate analysis. The rate can be adjusted for anticipated depreciation or appreciation of the property during the holding period. As in any type of rate adjustment, anticipated depreciation can be accounted for by adding a recapture rate allowance to the previously computed rate. Conversely, anticipated appreciation can be accounted for by subtracting an allowance from the basic rate. The sinking fund concept is used for this adjustment.

We have already used the sinking fund concept to adjust for equity growth from known amortization. As the owner of the equity receives all the benefits of property appreciation or suffers all the losses from depreciation, we can adjust the overall rate for this element by adjusting the same basic sinking fund factor used in our equity buildup analysis. The adjustment procedure is simple. The estimated percentage of loss or gain that is anticipated during the holding period is multiplied by the sinking fund factor used for the previous equity growth adjustment. Using the same basic rate in our previous example but anticipating a 10% appreciation in value during the 10 year holding period, we derive the adjustment as follows:

<i>Debt Component</i>	<i>.80 x .11746</i>	<i>.0940</i>
<i>Equity Component</i>	<i>.20 x .12</i>	<i>+ .0240</i>
<i>Unadjusted Overall Rate</i>		<i>.1180</i>
<i>Credit for Equity Build-Up</i>	<i>.2782 x .80 x .056984</i>	<i>- .0127</i>
<i>Equity Adjusted Overall Rate</i>		<i>.1053</i>
<i>Credit for Appreciation</i>	<i>.056984 x .10</i>	<i>- .0057</i>
<i>Adjusted Overall Rate</i>		<i>.0996</i>

*(.2782 = Portion of principal that paid after 10 years)*

*(.80 = Loan percent of original investment)*

*(.056954 = Sinking Fund Factor @ 12% for 10 years)*

*(.10 = Rate of appreciation)*

The adjustment was subtracted because the property was appreciating in value. Remember, capitalization at a lower rate produces a higher value than capitalization at a higher rate (assuming no change in income).

For a mortgage-equity overall rate to be valid in property tax appraising, the components of the rate should be determined from market data and this determination is the basic problem in the application of the technique. To compute a mortgage-equity overall rate, the terms of the available financing, the holding period, the estimated change in property value during the holding period and the equity yield must be known. The financial terms, the holding period and possible change in value can be estimated from market data; however, the equity yield rate cannot be directly calculated even when



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the overall rate is known. When the mortgage component (mortgage ratio x mortgage constant) is subtracted from a market derived overall rate and the remainder (the weighted equity rate) is divided by the equity ratio, the quotient is not the true equity yield rate because the weighted equity rate contains adjustments for equity buildup during the estimated holding period and any projected value change. As equity yield must be known to determine the sinking fund factor needed to adjust the overall rate, the mathematical equation for the derivation of the equity yield has two unknowns and cannot be solved directly. The equity yield equation is shown as follows:

$$Y = R_e \frac{+ \text{App}}{- \text{Dep}} \times \frac{1}{S_n}$$

When mortgage-equity overall rates are used in property tax appraising, a tax component (an effective tax rate) must be added to the computed rate to form a capitalization rate, just as a tax component must be added to the other various market derived rates.

#### C. Straight-Line Capitalization

This method of capitalization, also known as "straight capitalization with straight-line recapture", is based upon the following assumptions:

1. The portion of income applicable to the land remains constant while that portion applicable to the improvements declines in a fixed annual amount due to reduction of the investment through an annual recapture.
2. Recapture is a constant annual amount over the remaining economic life of the improvements.
3. Return on the amount of investment remaining after recapture is received each year, and hence follows a straight-line declining pattern.

Therefore, each annual recapture payment reduces the amount of the investment remaining in the property from year to year, with the subsequent annual reduction in the number of dollars needed to pay the selected rate of return on the investment outstanding. Thus, use of the straight-line recapture provision implies a future annual decline in net income equal to the number of dollars recaptured each year times the interest rate. This declining pattern is demonstrated in **Exhibit 6.31**.

Under the straight-line recapture assumption, the appraiser, in selecting a rate for recapture, is not predicting that a property will have a specific remaining economic life. The rate selection reflects



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that research has revealed that market behavior patterns interpreted within the concept of the capitalization method selected implies this pattern of remaining economic life.

The use of the straight-line method of capitalization may be justified in estimating value of property where income is to be realized over a comparatively short period. It is also properly employed where the elements within the investment are consistent with the assumptions implicit in this method. Certain residual techniques facilitate the processing of land and building incomes separately.

#### C/D. Annuity Capitalization

Straight Capitalization methods employ rates to develop an estimate of property values, while annuity capitalization is a process which makes use of pre-computed compound interest tables. The compound interest tables consist of six functions of a dollar and these functions are explained in **Exhibit 6.32**. Illustrations of monthly and annual compound interest tables<sup>37</sup> for 10% are shown in **Exhibit 6.33**. The annuity processes are commonly referred to as the "Inwood" and "Hoskold" premises.

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<sup>37</sup> "Ellwood Tables for Real Estate Appraising and Financing", 4th Edition, published for the AIREA by Ballinger Publishing Company.





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### EXHIBIT 6.31

#### ANALYSIS OF A DECLINING INCOME STREAM ASSUMING END OF YEAR PAYMENT

	<u>Bldg. Value</u>	<u>Land Value</u>	<u>Return Of</u>	<u>Bldg. Return On</u>	<u>Land</u>	<u>Annual Income</u>
Beginning of 1st year	75,000	20,000				
End of 1st year	67,500	20,000	7,500	6,750	1,800	16,050
End of 2nd year	60,000	20,000	7,500	6,075	1,800	15,375
End of 3rd year	52,500	20,000	7,500	5,400	1,800	14,700
End of 4th year	45,000	20,000	7,500	4,725	1,800	14,025
End of 5th year	37,500	20,000	7,500	4,050	1,800	13,350
End of 6th year	30,000	20,000	7,500	3,375	1,800	12,675
End of 7th year	22,500	20,000	7,500	2,700	1,800	12,000
End of 8th year	15,000	20,000	7,500	2,025	1,800	11,325
End of 9th year	7,500	20,000	7,500	1,350	1,800	10,650
End of 10th year	-0-	20,000	7,500	675	1,800	9,975

Assumption: Straight-line recapture at 10% per year is based upon a remaining economic life of 10 years.  
Discount rate of 9%.



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### EXHIBIT 6.32 COMPOUND INTEREST TABLES SIX FUNCTIONS OF DOLLAR

#### Column 1: Amount of 1

This series of factors shows the amount to which \$1 will grow at a given interest rate in a given number of years. The table is constructed by adding compound interest to the single deposit.

**Example:**

\$1 is deposited at the beginning of the year and allowed to earn interest at 7 percent for three years.

Beginning of Year	Deposit	Interest Rate	Interest Earned	End of Year
First year.....	\$ 1.00	0.07	\$ 0.07	\$ 1.07
Second year.....	1.07	0.07	0.0749	1.1449
Third year.....	1.1449	0.07	0.0801	1.2250

This shows that \$1 at 7 percent will grow to \$1.225 in three years and (from the table) to \$1.967 in ten years. To calculate the amount to which any given number of dollars deposited will grow, simply multiply the number of dollars deposited by the factor for the selected interest rate and number of years: \$20 deposited for ten years will grow to \$39.34 (\$20 x 1.967 = \$39.34). The factors in this column are reciprocals of the factors in column 4, Present Worth of 1.

#### Column 2: Amount of 1 per Period

This series shows the amount to which \$1 deposited each year will grow at a given rate of interest in a given number of years. The table is based on payments made at the end of the year along with the annual deposit.

**Example:**

\$1 is deposited at the end of each year and allowed to earn interest at 7 percent.

End of Year	Total	Interest Rate	Interest Earned
First year.....	\$1.00	0.07	*
Second year.....	\$2.07 (\$1.07 + \$1.00)	0.07	0.07
Third year.....	\$3.2149 (\$2.2149 + \$1.00)	0.07	0.2149

This shows that \$1 deposited at the end of each year at 7 percent will grow to \$3.2149 by the end of three years or (from the table) to \$13.8164 in ten years. To calculate the amount to which any given number of dollars deposited annually will grow, simply multiply the number of dollars deposited by the factor for the selected interest rate and number of years: \$20 per year deposited at the end of each year for ten years at 7 percent will grow to \$276.33 (\$20 x 13.8164 = \$276.33). The factors in this column are reciprocals of the factors in column 1, Sinking-Fund Factor.

#### Column 3: Sinking-Fund Factor

This factor shows the annual deposit required to accumulate \$1 at a given rate of interest in a given number of years.

**Example:**

An investor wants the sum of \$100 to be available in three years. If the interest rate is 7 percent, the uniform annual deposit necessary to accrue \$100 including interest is \$31.11.

End of Year	Total	Interest Rate	Interest Earned
First year.....	\$ 31.11	0.07	*
Second year.....	64.40	0.07	\$ 2.18
Third year.....	100.00	....	4.51

\* Since the deposit is made at the end of each year, no interest is earned until the second year.



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### EXHIBIT 6.32 (continued)

This shows that \$31.11 deposited each year at the end of the year for three years at 7 percent will grow to \$100.00. From the table, \$7.24 will grow to \$100.00 in ten years. To calculate the annual deposit necessary to accumulate a given number of dollars, simply multiply the amount of the desired accumulation by the sinking-fund factor for the selected interest rate and number of years: the annual deposit necessary to accumulate \$750 in ten years is \$54.28 (\$750 x 0.072378 = \$54.28). The factors in this column are reciprocals of the factors in column 2, Amount of 1 per Period.

#### Column 4: Present Worth of 1

This factor shows the present worth of money to be collected after a given number of years at a given interest rate. Also called a reversion factor.

##### Example:

An investor wishes to know what he needs to pay for the right to receive \$100 three years from today, assuming 7 percent interest on his money. From column 4 of the 7 percent annual table for three years, the factor is 0.816298. The present worth of \$100 at 7 percent in three years is \$81.63 (\$100 x 0.816298 = \$81.63). The "present worth of 1" factor is the reciprocal of column 1, Amount of 1.

#### Column 5: Present Worth of 1 per Period

This table shows the present value of the right to receive \$1 per period for a given number of periods at a stated interest rate. This table is constructed by subtracting compound interest. Also called Inwood Coefficients.

##### Example:

An investor wishes to know what he would pay today for the right to receive \$100 each year for three years, assuming 7 percent interest on the money. From column 5 of the 7 percent annual table for three years, the factor is 2.624316. The present worth of 1 per period of \$100 each year at 7 percent for three years is \$262.43 (\$100 x 2.624316 = \$262.43). These factors are the reciprocals of column 6, Partial Payment.

#### Column 6: Partial Payment

This table shows the amount required per period to amortize principal and interest on an investment or loan in a given number of periods at a given interest rate.

##### Example:

An investor wishes to know what to pay per year to pay off a \$1,000 loan in three years at 7 percent interest. From column 6 of the 7 percent table for three years, the factor is 0.381052. The periodic payment per year for three years at 7 percent necessary to pay off a \$1,000 loan is \$381.05 (\$1,000 x 0.381052 = \$381.05 per year). The factors in this table are reciprocals of column 5, Present Worth of 1 per period.

#### Compound Interest Formula

Column 1  
AMOUNT OF ONE

$$S^n = (1+i)^n$$

Column 2  
AMOUNT of ONE  
PER PERIOD

$$S \frac{1}{n} = \frac{S^n - 1}{i}$$

Column 3  
SINKING-FUND  
FACTOR

$$1/S \frac{1}{n} = \frac{1}{S^n - 1}$$

Column 4  
PRESENT WORTH  
ONE PER PERIOD

$$A \frac{1}{n} = \frac{1-v^n}{i}$$

Column 5  
PRESENT WORTH  
of ONE

$$v^n = \frac{1}{S^n}$$

Column 6  
PARTIAL  
PAYMENT

$$1/A \frac{1}{n} = \frac{1}{1-v^n}$$



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### EXHIBIT 6.33

MONTHLY COMPOUND INTEREST TABLES						
Months	Amount of One	Amount of One Per Period	Sinking Fund Factor	Present Worth of One	Present Worth One Per Period	Partial Payment
1	1.008 333	1.000 000	1.000 000	.991 736	.991 736	1.008 333
2	1.016 736	2.008 333	.497 925	.983 539	1.975 275	.506 259
3	1.025 209	3.025 069	.330 571	.975 411	2.950 686	.338 904
4	1.033 752	4.050 278	.246 897	.967 350	3.918 036	.255 230
5	1.042 367	5.084 031	.196 694	.959 355	4.877 391	.205 028
6	1.051 053	6.126 398	.163 228	.951 427	5.828 817	.171 561
7	1.059 812	7.177 451	.139 325	.943 563	6.772 381	.147 659
8	1.068 644	8.237 263	.121 400	.935 765	7.708 146	.129 733
9	1.077 549	9.305 907	.107 459	.928 032	8.636 178	.115 792
10	1.086 529	10.383 456	.096 307	.920 362	9.556 540	.104 640
11	1.095 583	11.469 985	.087 184	.912 756	10.469 296	.095 517
Years						
1	1.104 713	12.565 568	.079 583	.905 212	11.374 508	.087 916
2	1.220 391	26.446 915	.037 812	.819 410	21.670 855	.046 145
3	1.348 182	41.781 821	.023 934	.741 740	30.991 236	.032 267
4	1.489 354	58.722 492	.017 029	.671 432	39.428 160	.025 363
5	1.645 309	77.437 072	.012 914	.607 789	47.065 369	.021 247
6	1.817 594	98.111 314	.010 193	.550 178	53.978 665	.018 526
7	2.007 920	120.950 418	.008 268	.498 028	60.236 667	.016 601
8	2.218 176	146.181 076	.006 841	.450 821	65.901 488	.015 174
9	2.450 448	174.053 713	.005 745	.408 089	71.029 355	.014 079
10	2.707 041	204.844 979	.004 882	.369 407	75.671 163	.013 215
11	2.990 504	238.860 493	.004 187	.334 392	79.872 986	.012 520
12	3.303 649	276.437 876	.003 617	.302 696	83.676 528	.011 951
13	3.649 584	317.950 102	.003 145	.274 004	87.119 542	.011 478
14	4.031 743	363.809 201	.002 749	.248 032	90.236 201	.011 082
15	4.453 920	414.470 346	.002 413	.224 521	93.057 439	.010 746
16	4.920 303	470.436 376	.002 126	.203 240	95.611 259	.010 459
17	5.435 523	532.262 780	.001 879	.183 975	97.923 008	.010 212
18	6.004 693	600.563 216	.001 665	.166 536	100.015 633	.009 998
19	6.633 463	676.013 601	.001 479	.150 751	101.909 902	.009 813
20	7.328 074	759.368 876	.001 317	.136 462	103.624 619	.009 650
21	8.095 419	851.430 244	.001 174	.123 527	105.176 801	.009 508
22	8.943 115	953.173 779	.001 049	.111 818	106.581 856	.009 382
23	9.879 576	1065.549 097	.000 938	.101 219	107.853 730	.009 272
24	10.914 097	1189.691 580	.000 841	.091 625	109.005 045	.009 174
25	12.056 945	1326.833 403	.000 754	.082 940	110.067 230	.009 087
26	13.319 465	1478.335 767	.000 676	.075 078	110.990 629	.009 010
27	14.714 187	1645.702 407	.000 608	.067 962	111.844 605	.008 941
28	16.254 954	1830.594 523	.000 546	.061 520	112.617 635	.008 880
29	17.957 060	2034.847 258	.000 491	.055 688	113.317 392	.008 825
30	19.837 399	2260.487 925	.000 442	.050 410	113.950 820	.008 776
31	21.914 634	2509.756 117	.000 398	.045 632	114.524 207	.008 732
32	24.209 383	2785.125 947	.000 359	.041 306	115.043 244	.008 692
33	26.744 422	3089.330 596	.000 324	.037 391	115.513 083	.008 657
34	29.544 912	3425.389 447	.000 292	.033 847	115.938 387	.008 625
35	32.638 650	3796.638 052	.000 263	.030 639	116.323 377	.008 597
36	36.056 344	4206.761 236	.000 238	.027 734	116.671 876	.008 571
37	39.831 914	4659.829 677	.000 215	.025 105	116.987 340	.008 548
38	44.002 836	5160.340 305	.000 194	.022 726	117.272 903	.008 527
39	48.610 308	5713.260 935	.000 175	.020 572	117.531 398	.008 508
40	53.700 663	6324.079 581	.000 158	.018 622	117.765 391	.008 491
41	59.323 824	6998.858 921	.000 143	.016 857	117.977 204	.008 476
42	65.535 804	7744.296 475	.000 129	.015 259	118.168 940	.008 462
43	72.398 259	8567.791 082	.000 117	.013 812	118.342 502	.008 450
44	79.979 303	9477.516 336	.000 106	.012 503	118.499 612	.008 439
45	88.354 181	10482.501 711	.000 095	.011 318	118.641 830	.008 429
46	97.606 018	11592.722 188	.000 086	.010 245	118.770 568	.008 420
47	107.826 644	12819.197 256	.000 078	.009 274	118.887 103	.008 411
48	119.117 502	14174.100 291	.000 071	.008 395	118.992 591	.008 404
49	131.590 661	15670.879 379	.000 064	.007 599	119.088 081	.008 397
50	145.369 923	17324.390 796	.000 058	.006 879	119.174 520	.008 391
$S^n = (1+i)^n \quad S_{\overline{n} i} = \frac{S^n - 1}{i} \quad \frac{1}{S_{\overline{n} i}} = \frac{i}{S^n - 1} \quad V^n = \frac{1}{S^n} \quad A_{\overline{n} i} = \frac{1 - 1/S^n}{i} \quad \frac{1}{A_{\overline{n} i}} = \frac{i}{1 - 1/S^n}$						



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An annuity is a series of payments receivable at regular intervals. It is convenient to view the expected income to a property as an annual annuity. An annuity may be level, in which case the expected payments are assumed equal; or they may be variable, in which case the expected payments are assumed to vary from period to period.

The basic premise of annuity capitalization is that an investor will only be willing to invest today an amount which will earn interest at a compounding rate, the sum of which will equal the total of all expected future income payments. Therefore, present worth is that amount which investors should pay for the privilege of receiving these future income payments. Factors from the compound interest tables may be applied to a periodic payment of income to derive the present worth of this income stream for a specific period of time at a selected discount rate. The factor must reflect the risk inherent in receipt of these projected payments.

In the use of these factors, a separate recapture rate needs to be estimated because each factor includes provision for return **ON** and return **OF** the original investment.

#### **1. The Inwood Premise**

The Inwood premise, annuity capitalization, holds that a stream of income has a present worth based upon a single discount rate. Each installment of income is discounted as a reversion with a single discount rate and the total discounted values of the installments are accumulated to obtain the present worth of the income stream. It is assumed that the income must be sufficient to return the entire investment to the investor out of the income and, in addition, to pay the stipulated return on the investment. Usually, it is assumed that interest gradually declines, being calculated as the stipulated percentage of the un-recaptured capital. Any excess over the required interest payment is considered a return of capital and reduces the amount remaining in the investment. Since the installments are always the same amount, the principal payments increase by the same amounts that the interest payments decrease.

#### **2. The Hoskold Premise**

The Hoskold premise or sinking-fund capitalization method differs from the Inwood premise in the manner in which the recapturing of the capital investment is amortized. The development of the capitalization rate in this sinking-fund method utilizes two separate interest rates:

**A. A "speculative rate"** represents a fair rate of return on the capital commensurate with the risk involved. It is assumed that a stream of income of limited duration must be sufficient to pay a fair return on capital at an acceptable discount rate.



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**B. A "safe rate"** (e.g., the rate on savings accounts) compounds annually with an equal annual reinvestment (deposit) in order to accumulate to an amount equal to the wasting asset at the end of the investment period.

The amount of income allocated to the return of the wasting asset is assumed to be placed into a sinking-fund periodically, usually annually, which in addition to compound interest at the safe rate will equal the original value of the wasting asset at the end of the investment period.

Since this premise is based upon the assumption that equal annual installment payments will be deposited to accumulate at interest, such an assumption is frequently inconsistent with the investment practices of the typical investor. The premise has limited use. The Hoskold premise is used to value investments in wasting assets such as mineral deposits. Therefore, the sinking-fund method of capitalization is seldom used in current general appraisal practices.

The application of these two premises to the same income stream is inappropriate. It is difficult to make a fair comparison of single rate and dual rate systems. The single rate of return applicable for valuation via the Inwood premise is not necessarily the appropriate speculative rate for valuation via the Hoskold premise.

### **3. Capitalization Techniques**

In applying the capitalization methods previously discussed, some of these methods require that one of the components, land or improvements, of the property be valued independently in order to arrive at the value of the remaining component. Each component contributes and works with the other in producing a net operating income. The residual technique assumes that the appraiser can estimate with reasonable accuracy the value attributable to one of the components through application of cost or market analysis.

In the appraisal process the term residual may refer to (1) the amount of net income remaining to the building after all land charges have been deducted, (2) the amount of net income remaining to the land after all building charges have been deducted or (3) the net income remaining to the property as a whole. After the applicable land or building capitalization rate is applied to the value of the known component, the resulting dollar amount is subtracted from net income. The residual income is considered to be attributable to the unknown component. The capitalization of this amount by the appropriate land or building rate will produce a value for the remaining unknown component.

Three residual techniques have been developed for use by the appraiser. These include the building residual, land residual and property residual techniques. **Exhibit 6.34** illustrates the steps used in applying these techniques.



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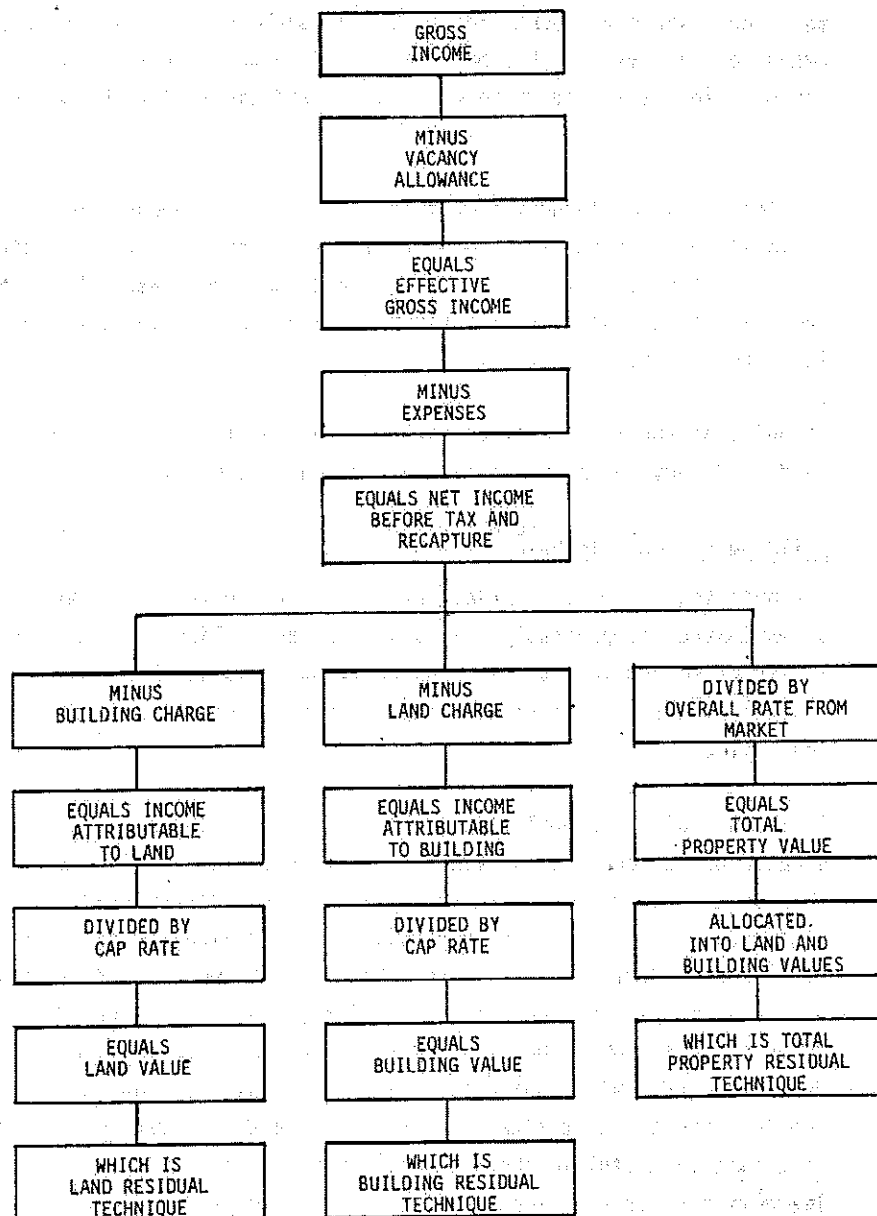
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#### EXHIBIT 6.34

##### RESIDUAL TECHNIQUES





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#### **A. Land Residual Technique**

In the land residual technique the building is valued separately, and the annual net return to the building value (return on plus a provision for recapture) is deducted from the estimated net income attributable to the whole property. This residual amount is considered to be attributable to the land. Therefore, it is capitalized at the risk rate (an interest rate) plus the effective tax rate to arrive at an estimate of land value.

The value assigned to the building is customarily based on an estimate of its current cost new less any accrued depreciation, which should generally be minimal to validate this technique. Therefore, the land residual technique generally should be applied only to newer improvements whose value can be determined reliably because of the absence of physical deterioration. In addition, the improvements must represent the highest and best use of the land. If land is under- or over-improved, multiplying building value, as estimated by the cost approach, by the building capitalization rate (interest rate + recapture rate + effective tax rate) will result in assigning too large a share of normal income to the building, unless the full amount of obsolescence has been reflected in the cost approach. Hence, the building is likely to be overvalued and the land to be undervalued.

The land residual technique must be used with care because errors can seriously distort the land value estimate. Therefore, whenever a structure is either old or new and obviously doesn't represent the highest and best use of the site, the assessor should simply avoid using the land residual technique.

Examples of the land residual technique using straight-line, sinking-fund, and annuity capitalization are shown in **Exhibit 6.35**.

#### **B. Building Residual Technique**

The building residual technique assumes that the value of the land can be estimated independently. This is best accomplished through an analysis of vacant land sales. The building value is then computed by capitalizing the residual net income after deducting a return on the land value.

In the building residual technique, the value of the building is predicated on the quantity of its contribution to the net income, rather than on the appraiser's estimate of its current depreciated reproduction cost. This technique is particularly applicable where substantial accrued depreciation exists, the extent of which is difficult to estimate in the cost approach. Therefore, the building residual technique is useful when the value of the land can be reliably determined from sales of similar but vacant parcels.





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#### EXHIBIT 6.35

#### EXAMPLES OF LAND RESIDUAL TECHNIQUES

##### Straight-Line Capitalization

Net income before recapture and real estate taxes.....	\$10,000
Capitalization rate:	
Discount rate.....	9%
Recapture (33-year life).....	5
Effective Tax rate.....	2
Total.....	14%
Income attributable to building (\$40,000 x 0.14).....	5,600
Income attributable to land.....	\$ 4,400
Land Value (\$4,400 ÷ 0.11 (0.09 discount + 0.02 effective Tax rate)).....	\$40,000
Plus building value.....	40,000
Property value.....	<u>\$80,000</u>

##### Sinking-Fund Capitalization

Net income before recapture and real estate taxes.....	\$10,000
Capitalization rate:	
Discount rate.....	0.09000
Recapture (6% sinking fund, 33 years).....	0.01027
Effective tax rate.....	0.02000
Total.....	0.12027
Income attributable to building (\$46,562 x 0.12027).....	5,600
Income attributable to land.....	\$ 4,400
Land value (\$4,400 ÷ 0.11 (0.09 discount + 0.02 effective tax rate)).....	\$40,000
Building value.....	46,562
Property value.....	<u>\$86,562</u>

##### Annuity Capitalization

Net income before recapture and real estate taxes.....	\$10,000
Capitalization rate:	
Inwood factor at 9% discount for 33 years.....	10.464
Reciprocal of Inwood factor 10.464.....	0.09556
Partial Payment factor.....	0.09556
Effective tax rate.....	0.02000
Total.....	0.11556
Income attributable to building (\$48,460 x 0.11556).....	5,600
Income attributable to land.....	\$ 4,400
Land value (\$4,400 ÷ 0.11 (0.09 discount + 0.02 effective tax rate)).....	\$40,000
Plus building value.....	48,460
Property value.....	<u>\$88,459</u>



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This technique does not require land to be utilized in its highest and best use, making it particularly useful in the appraisal of properties with old or obsolescent structures or improvements that are improper for the site.

Examples of the building residual technique using straight-line, sinking-fund and annuity capitalization are shown in **Exhibit 6.36**.

#### **C. Property Residual Technique**

The property residual technique utilizes an overall rate which is applied to the total net income. This process is the same as direct capitalization with an overall rate. The land and building residual techniques serve to estimate worth of a portion of the property whose value is unknown. The property residual technique provides an estimate of value applicable to the total property as one unit, without separation into land and building units.

The property residual technique employs direct capitalization of the net income by an overall rate that may be found by comparable sales as illustrated in the following example.

#### **Property Residual Technique**

<i>Net Income</i>	<i>\$11,520</i>
<i>Indicated Overall Rate</i>	<i>11.5%</i>
<i>Indicated Property Value</i>	
$\$11,520 \div 11.5\% =$	<i>\$100,173</i>
<i>Rounded</i>	<i>\$100,000</i>

The property residual technique may also be used with annuity capitalization. In using this technique, the land (or land and depreciated building value) is assumed to revert to the owner at the termination of the income stream or holding period. This reversion is evaluated through a discounting process, the result of which is combined with the value of the income stream to produce an estimated value for the total property. Therefore, the total value of the property is the sum of the present worth of the right to receive the projected net income plus the present worth of the reversionary interest.

This technique is applicable where the property as improved develops its highest value, where land and building values cannot be readily separated or where the estimated remaining economic life of the property is relatively short. This property residual technique may be used when property is subject to a relatively long-term lease that tends to support an income stream projection for a specific period at identifiable levels. In such a case, the projection period is usually the term of the lease or of the assumed income stream, and the reversionary interest consists of the value of the land together



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with the depreciated value of the improvements.

#### EXHIBIT 6.36 EXAMPLES OF BUILDING RESIDUAL TECHNIQUE

##### Straight-Line Capitalization

Net income before recapture and real estate taxes.....	\$ 10,000
Income to land (\$40,000 x 0.11 (0.09 discount + 0.02 effective tax rate)).....	4,400
Income attributable to building.....	\$ 5,600
Capitalization rate:	
Discount rate.....	9%
Recapture (33 years).....	3
Effective tax rate.....	2
Total.....	14%
Building value (\$5,600 ÷ 0.14).....	\$ 40,000
Plus land value.....	40,000
Property value.....	<u>\$ 80,000</u>

##### Sinking-Fund Capitalization

Net income before recapture and real estate taxes.....	\$ 10,000
Income to land (\$40,000 x 0.11 (0.09 discount + 0.02 effective tax rate)).....	4,400
Income attributable to building.....	\$ 5,600
Capitalization rate:	
Discount rate.....	0.0900
Recapture (factor for 6% sinking fund, 33 years).....	0.01027
Effective tax rate.....	0.02000
Total.....	0.12027
Building value (\$5,600 ÷ 0.12027).....	\$ 46,562
Plus land value.....	40,000
Property value.....	<u>\$ 86,562</u>

##### Annuity Capitalization

Net income before recapture and real estate taxes.....	\$ 10,000
Income to land (\$40,000 x 0.11 (0.09 discount + 0.02 effective tax rate)).....	4,400
Income attributable to building.....	\$ 5,600
Capitalization rate:	
Inwood factor at 9% discount for 33 years.....	10.464
Reciprocal of Inwood factor 10.464.....	0.09556
Partial payment factor.....	0.09556
Effective tax rate.....	0.02000
Total.....	0.11556
Building value (\$5,600 ÷ 0.11556).....	\$ 48,460
Plus land value.....	40,000
Property value.....	<u>\$ 88,460</u>



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An example of the property residual technique as it applies to straight-line capitalization, sinking-fund capitalization, and annuity capitalization is illustrated in **Exhibit 6.37**.



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#### EXHIBIT 6.37

#### EXAMPLES OF THE PROPERTY RESIDUAL TECHNIQUE

##### Straight-Line Capitalization

Net income before recapture and real estate taxes.....	\$ 10,000.00
Reversion (\$40,000 x 0.0582 (9% for 33 years)).....	2,328.00
Net income (10,000 - \$46.56 (\$2,328 x 0.02 effective tax rate = \$46.56)).....	9,953.44
\$71,096 (\$9,953.44 (net income) ÷ 0.14) + \$2,328 (reversion)....	\$ 73,424.00

Proof:

\$73,424 x 0.02 = \$1,468.48	
Net income before recapture and taxes.....	\$ 10,000.00
Taxes.....	1,468.48
Net income before recapture.....	\$ 8,531.52
\$71,096 (\$8,531.52 ÷ .12) + \$2,328 (reversion).....	\$ 73,424.00

##### Sinking-Fund Capitalization

Net income before recapture and real estate taxes.....	\$ 10,000.00
Reversion (\$40,000 x 0.0582 (9% for 33 years)).....	2,328.00
Net income (\$10,000 - \$46.56 (\$2,328 x 0.02 effective tax rate = \$46.56)).....	9,953.44
Capitalization rate:	
Discount rate.....	0.09000
Recapture (factor for 6% sinking fund, 33 years).....	0.01027
Effective tax rate.....	0.02000
Total.....	0.12027
\$82,759 (\$9,953.44 ÷ 0.12027) + \$2,328 (reversion).....	\$ 85,087.00

Proof:

\$85,087 x 0.02 = \$1,701.74	
Net income before recapture and taxes.....	\$ 10,000.00
Taxes.....	1,701.74
Net income before recapture.....	\$ 8,298.26
\$82,759 (\$8,298.26 ÷ 0.10027) + \$2,328 (reversion).....	\$ 85,087.00

##### Annuity Capitalization

Net income before recapture and real estate taxes.....	\$ 10,000.00
Reversion (\$40,000 x 0.0582 (9% for 33 years)).....	2,328.00
Net income adjusted for tax on reversion (\$10,000 - \$46.56 (\$2,328 x 0.02 = \$46.56)).....	9,953.44
Capitalization rate:	
Inwood factor for 9% and 33 years.....	10.464
Convert 10.464 to rate (reciprocal).....	0.09556
Effective tax rate.....	0.02000
Total.....	0.11556
\$86,132 (\$9,953.44 ÷ 0.11556) + \$2,328 (reversion).....	\$ 88,460.00



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**It should be noted that this supplement to the main document nor the main document itself covers valuation of properties that involve “going concerns” such as hotel/motels and convenience stores. Caution should be exercised when analyzing comparable rentals and sales for these property types to be sure that no furniture, fixtures, equipment, or business value was included in the sale price or that these items can be extracted from the sale price for the purpose of comparison.**



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CHAPTER:

### SPECIALTY PROPERTY GUIDELINES

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REVISION DATE: 2/1/2008

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## 7.0 SPECIALTY PROPERTY GUIDELINES

The following guidelines are developed to assist the assessor's office with the valuation of unique properties found throughout the state of Missouri. The State Tax Commission has developed the following guidelines to help the assessor in valuing these specialty properties; rural electric cooperatives, agricultural land, natural gas distribution, livestock values, and billboards. Please keep in mind that these are merely guidelines to assist the assessor's office and should not be used exclusively for defending those values.



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CHAPTER:

### RURAL ELECTRIC COOPERATIVES

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REVISION DATE: 2/2/2015

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## 7.1 RURAL ELECTRIC COOPERATIVES (RECs)

The following guidelines, developed by the State Tax Commission (Commission), are furnished to each county assessor for the valuation of Rural Electric Cooperatives (RECs). The Commission is providing these guidelines to assist county assessors in valuing rural electric cooperatives. These guidelines are intended to be supplemental to the appraiser's knowledge and available resources. It remains the responsibility of each county assessor to defend the final estimates of market value.

### 1. Overview

Electric cooperatives began in the 1930s when President Franklin D. Roosevelt, by executive order, authorized loans to anyone who would undertake extension of electric service to people in rural areas. Soon after, consumer-owned utilities were organized because existing utility companies were not applying for those low interest loans to serve those areas. The Congress extended this executive order by enacting the Rural Electrification Act (R.E.A.) in 1936. Presently, there are around a thousand rural electric cooperatives in the United States. Missouri has approximately 50 of these rural electric cooperative systems providing service to consumers.

There are several major differences between rural electric cooperatives and investor owned electric utilities (IOUs). Seasonal demand and larger investment in distribution facilities required per customer are unique to Distribution cooperatives. This is primarily caused by the low density of customers in rural areas. Most rural electric cooperatives sell the vast majority of their power to rural customers while the IOUs sell a larger percentage of power to commercial and industrial customers. The low customer density and low percentage of revenue generated from commercial and industrial customers are forms of economic obsolescence.

A rural electric cooperative is nonprofit motivated and, thus, it is difficult to arrive at a capitalized income value. Their rates are based on operating expenses, largely made up of the cost of power and the needed funds required to service the debt. Because of the relationship of rates to expenses, the operating margin or net income is nominal and does not provide a market rate of return on capital. The difficulty involved in appraising rural electric cooperatives is in both measuring an income stream and arriving at a capitalization rate, making the capitalized income approach difficult to perform.



The market or comparable sales approach is also difficult to perform due to the scarcity of sales. With such limited sales taking place, this approach would be seldom used for appraising rural electric cooperatives.

Therefore, the cost approach seems to be the most reliable indicator of value. Net distribution plant, less obsolescence, is used for Distribution cooperatives. Net transformer plant, net transmission plant, and net production plant, less obsolescence, is used for Generation & Transmission cooperatives.

The first section of these guidelines may be used by any county wishing to develop a value per mile of the distribution assets for a Distribution cooperative. The second section of the guidelines describes the valuation process for developing a value per kV mile of the transmission assets, a value per MVA of transformer rated capacity, and a value for production assets of a Generation & Transmission cooperative. Construction Work In Progress (CWIP) values are not included in the valuation process outlined by the guidelines for either a Distribution cooperative or Generation & Transmission cooperative. However, the Average of Standard Factor (for a Distribution cooperative) or Aggregate Average of Standard Factor (for a Generation & Transmission cooperative), respectively, may be applied to the CWIP dollars booked as of the January 1 lien date. These factors provide for the inherent obsolescence of the rural electric cooperative. The county assessor will develop market value estimates for buildings and equipment not included in distribution, transmission, and production plant accounts, such as office buildings, fixtures, office equipment and furniture, motor vehicles, materials and supplies, and land, including substation land.

## **2. Market Value Estimate**

This guideline will present several factors that are considered applicable in obtaining the appropriate amount of obsolescence in a rural electric cooperative. In using these factors, which compares rural electric cooperatives to IOUs, the following must be considered:

- A. An IOU operating under regulated conditions in the State of Missouri will be worth at least net book;
- B. Net book is substantially all of the earnings base of an IOU and, therefore, several measures of operating efficiency will provide "standards" against which all companies can be compared; and
- C. "Standards" will be those operating factors that are representative of IOUs operating efficiently and under regulated conditions.

A revenue statistics comparison of a rural electric cooperative to an IOU is hard to achieve because of the cooperative's nonprofit nature, exemption from federal income taxes, receipt of low interest loans, and other revenue and expense differences. While there would be many factors that could be considered when comparing one IOU to another, six factors were chosen for the purpose of comparing cooperatives to the IOUs. These factors are used to determine obsolescence. The factors of comparison are as follows:

- (1) (MWH Sales/Customer) mega-watt hours sold to customers per customer.
- (2) (MWH Sales/Net Distribution Plant) mega-watt hours sold to customers per net dollar invested in distribution plant.
- (3) (MWH Sales/O & M Expenses) mega-watt hours sold to ultimate customers per dollar of operating and maintenance expense.
- (4) (MWH Sales/Distribution O & M Expenses) mega-watt hours sold to customers per dollar of distribution operating and maintenance expense.
- (5) (Customers/Net Distribution Plant) number of customers per net dollar invested in distribution plant.
- (6) (Customer per Mile) number of customers per mile of distribution line.

\*\* Note: MWH Sales should not include any amount for resale or those customers served.

These are ratios that a prospective buyer would examine. Ratios 1, 5 and 6 give some indication of the density or volume of the business. Ratio 2 gives an indication of the cost effectiveness and efficiency of the invested assets. Ratios 3 and 4 give some indication of the efficiency of the operations. All six factors are intended to be directly comparable to the ratios of an IOU.

The operating ratios are calculated using data of the four IOUs operating in Missouri. The calculations, of the six ratios, yield the six **STANDARD COMPANY FACTORS**. They do not represent any one particular electric company but rather a threshold by which to compare the cooperative's ratios.

In January of the odd-numbered year, the Original Assessment Section of the Commission calculates the **STANDARD COMPANY FACTORS**. These factors are based upon reports submitted by the IOUs to the Commission in April of the prior even-numbered year and contain year-end data from the immediately preceding odd-numbered year. For example, the **STANDARD COMPANY FACTORS** for 2015 will be calculated from information as of December 31, 2013 year-end. Therefore, this information is representative of the same year as the 2013 REC data used to calculate the Average of Standard Factor for the rural electric cooperative in 2015. The Average of Standard Factor for a Distribution cooperative for an odd-numbered year is also used in the valuation process for the following even-numbered year.

### **3. Updates**

Real property is to be valued on a two-year assessment cycle. The difference in data utilization for a Distribution cooperative and a Generation & Transmission cooperative is explained below:

#### **A. Distribution Cooperative**

**In the odd-numbered year: all information will be updated.**

**In the even-numbered year: the Distribution cooperative's data will be updated for any added or retired distribution plant, and associated Accumulated Depreciation.** Also, the miles of distribution line and customers used in the "allocation to the county" will be updated.

For example, these values as of December 31, 2015 year-end will be utilized for 2016.

Accordingly, the Average of Standard Factor for the Distribution cooperative will NOT be updated for the even-numbered year.

#### **B. Generation & Transmission Cooperative**

**In the odd-numbered year: all information will be updated.**

**In the even-numbered year: the Generation & Transmission cooperative's data will be updated for any added or retired transmission plant, transformer plant, and production plant, and associated Accumulated Depreciation.** Also, the list of member cooperatives, the Distribution cooperatives' net distribution plant, and the miles and ratings of transmission line and transformer rated capacity used in the "allocation to the county" will be updated.

For example, these values as of December 31, 2015 year-end will be utilized for 2016.

Accordingly, as the Distribution cooperatives' net distribution plant values change, the Aggregate Average of Standard Factor for the Generation & Transmission cooperative will be updated for the even-numbered year.



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## STATE TAX COMMISSION OF MISSOURI ASSESSOR MANUAL

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CHAPTER:

### CABLE TELEVISION SYSTEMS

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REVISION DATE: 7/1/2012

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## 7.2 CABLE TELEVISION SYSTEMS

This section includes an introduction to CATV systems, a review of the description of a system, governmental regulation and the classification of the property for ad valorem taxation.

Be advised that taxpayers may contest the classification as real property or tangible personal property, as well as the valuation and such appeals will be handled in the same manner as other local assessment appeals.

### 1. Cable Television Systems

Cable television (also called CATV or Community Antenna Television) was first put into commercial operation in the late 1940's. The early systems developed in communities that were unable to receive TV signals because of their distant location from the TV stations. Cable systems began constructing antennas in places that could receive television broadcast signals, and then distributing the signal by copper cable to subscribers for a fee. The CATV systems soon began developing in large metropolitan areas because good reception was being obstructed by building growth. By 1975, satellite communication was implemented, which enabled cable companies to broadcast multiple channels that were being received via satellite. The first program of this type was Time Inc.'s Home Box Office (HBO) which offered uninterrupted first run movies.

The channel capacity of the cable system makes both radio and television broadcast possible. Additionally, many systems offer wire services such as news, weather and stock market reports, and network programming that offers movies, sports and special features. Some cable operators also have studio facilities that enable the system to originate local programming which can provide access channels for public use. The State of Missouri has several hundred cable systems operating in the state serving hundreds of thousands of subscribers.

**A. Definition of System**

A cable television system receives signals from local broadcast stations, or can receive distant signals via microwave or satellite relay. Once these signals are received, they are amplified and distributed through the cable network, which is ultimately connected to the subscribers' television sets. A CATV system can be classified into three major asset categories: (1) Headend, (2) Distribution, and (3) Subscriber connection.

Cable companies will typically own or lease the land on which the headend equipment is located. However, they generally do not own the land on which the distribution system is placed. The companies will install trunk and distribution cable either overhead or underground depending on how the existing utility lines are installed.

**(1) Headend**

The term headend typically refers to two types of equipment. The first, which actually receives the broadcast signal, is known as the antenna. The signal is received by either an off-air antenna, microwave receiver or satellite receiver. Many systems have one or more of these receivers strategically located so as to ensure good reception and relay of the broadcast signal. The second type of equipment (generally referred to as headend) is the electronic processing equipment. This equipment is located inside a building and is the electronic control center of the system. The broadcast signals are passed from the antenna to decoders, modulators and amplifiers which separate the audio and video signals and filter out any interfering signals. Electronic monitors are used to ensure that proper signal reception is maintained. Amplifiers are then used to reassemble the picture and sound and adjust the signal to the correct levels; the signal is then transmitted to the subscriber via the distribution system.

**(2) Distribution**

The distribution system is made up of cable and amplifiers that carry the signals from the headend to the subscriber. The largest cable, approximately one-inch in diameter, comes directly from the headend and is called a trunk line. Branching off the trunk lines are feeder lines. Each feeder line is connected to the trunk line via a bridger amplifier. The bridger amplifier draws a signal from the trunk line for distribution to the subscribers.

This amplifier will also provide protection against electronic surges in the feeder lines.

Both trunk and feeder lines have electronic amplifiers installed along the cable. This is necessary because as the signal travels long distances the signal quality will diminish, which results in "snowy" pictures. To provide constant signal strength, amplifiers are installed along the distribution system. Trunk amplifiers are located approximately every 1,800 feet along the trunk line. Feeder cable amplifiers (also called line extenders) are necessary depending upon the number of subscribers on the feeder line. As each subscriber taps onto the feeder line, the signal strength is decreased. If the signal strength drops below an acceptable tap port level, then a new line extender amplifier is necessary to increase the signal strength to a proper level.

In addition to amplifiers, it is necessary to locate a power supply every three to four miles along the cable system. This power supply maintains either 30 or 60 volts throughout the cable, and provides power to the trunk and line extender amplifiers. In overhead systems these units are typically mounted on utility poles and are completely weatherproof.

### **(3) Subscriber Connection**

The final connection from the feeder line to the subscriber is called a subscriber drop. This consists of a device that is installed on the feeder line called a tap. The tap is then connected to a flexible drop that runs to the subscriber's home. A device called a trap may also be installed at this point. The trap will filter out pay channels that the subscriber does not wish to receive. The coaxial cable is then connected to an inside wall plate connector.

### **B. Regulation**

The Federal Communications Commission (FCC) has regulatory authority over CATV systems to assure that franchise procedures and standards are used to encourage an equitable distribution of broadcast services around the country.

### **C. Classification of Property for Ad Valorem Taxation**

The cable TV system is made up of tangible personal property and real property.

Tangible personal property is defined to include every tangible thing being the subject of ownership or part ownership whether animate or inanimate, other than money, and not forming part or parcel of real property. Section 137.010(4).

Real property is defined to include land itself, whether laid out in town lots or otherwise, and all growing crops, buildings, structures, improvements and fixtures of whatever kind thereon, and all rights and privileges belonging or appertaining thereto. Section 137.010(3).

For purposes of this guideline, the value of a cable system would not include any buildings or motor vehicles. Their value should be determined in the same manner as other similar properties.

**(1) Real Property**

Items that would be considered as forming part or parcel of real property include:

**(a)** Towers, antennas, satellite receiver stations, and down leads - are structures which are affixed to either the ground or buildings with the intent that they remain in place for the useful life of the property.

**(b)** Distribution equipment - includes aerial or underground cable, trunk and feeder amplifiers, power supply equipment and any other equipment that is attached to the distribution system. This property is either affixed to utility poles, which are structures, or buried in the ground, with the intent that it remain in place for the useful life of the property. Pursuant to Chapter 137.010, this aerial equipment is considered real only when it is attached to installed poles owned by the CATV company. Otherwise, such items are considered personal property.

**(c)** Subscriber drops - consists of coaxial cable and taps. This property is also affixed to utility poles or buried in the ground. A subscriber drop is the final connection between the distribution system, or feeder line, and the subscriber.

Even though the FCC has issued rules defining cable home wiring, the rulings appear to deal specifically within the subscriber's home and not the wiring outside the house

beyond 12" of the exterior wall or in common areas of multiple dwelling unit buildings. Therefore, the State Tax Commission guidelines hold that these subscriber drops are appurtenant to the distribution system and are, therefore, the property of the cable company.

As stated above, pursuant to Chapter 137.010, this equipment is considered real only when it is attached to installed poles owned by the CATV company. Otherwise, such items are considered personal property.

(d) Leasehold improvements - includes any improvements made to real estate owned by others.

**(2) Tangible Personal Property**

Items that would not be considered as fixtures, structures, or improvements to land and should be classified as personal property include:

(a) Distribution equipment - consisting of aerial cable, trunk and feeder amplifiers, power supply equipment and any other equipment that is considered part of the distribution system. Pursuant to Chapter 137.010, this aerial equipment is considered personal only when it is attached to installed poles not owned by the CATV company. Otherwise, such items are considered real property.

(b) Subscriber drops - includes coaxial cable and taps. This aerial equipment is considered personal only when the distribution system is attached to installed poles not owned by the CATV company.

(c) Converters and subscriber traps

(d) Headend equipment - electronic processing equipment

(e) Origination equipment

(f) Test tools and equipment

(g) Any other property not classified as real



Cable TV personal property purchased after January 1, 2006 would be subject to taxation under the business personal property statutes. In 2005, §137.122, RSMo was enacted into law to provide for uniform assessment of business personal property beginning in 2007 for property put into service after January 1, 2006. To establish the assessment under that section, the following process must be followed:

1. The original cost paid by the current owner, less freight, installation, and sales or use taxes and date of purchase is reported by the owner. Assessors may access sample forms at [www.moassessorsassn.org/](http://www.moassessorsassn.org/) in the "Assessor Use Only" section.
2. The Class Life and Recovery period is determined by using IRS Publication 946, Appendix B, Table B-1 & B-2 – Table of Class Lives and Recovery Periods (see cite to IRS internet source below).
3. The assessor applies the proper depreciation schedule found in §137.122.3, RSMo, by applying the years since acquisition and the appropriate recovery period to determine the appraised value.
4. The appraised value is multiplied by the statutory assessment level for personal property, 33 1/3% to establish the assessed value.

To assess business personal property (BPP) pursuant to §137.122, RSMo, an assessing officer must determine the recovery period for each item. The Class Lives and Recovery Periods found in IRS Publication 946, Appendix B, Table B-1 & B-2 – Table of Class Lives and Recovery Periods provide the information necessary to establish these recovery periods. They are identified as GDS (MACRS) in Publication 946, where a detailed description of each of the asset classes can be found. To determine exactly how BPP should be depreciated, it is necessary to read the exact description from Publication 946, pages 98 through 107. An Adobe-Acrobat Reader is required to view, download, or print the publication. To access Publication 946, go to [www.irs.gov/pub/irs-pdf/p946.pdf](http://www.irs.gov/pub/irs-pdf/p946.pdf).

The State Tax Commission, utilizing IRS Publication 946, has provided a quick reference in two formats:

1. List of BPP Groups by Recovery Period The recovery periods established by §137.122, RSMo are 3, 5, 7, 10, 15 and 20 years. Accordingly, the first listing covers various groups of BPP organized by the length of the recovery periods applicable under MACRS. The depreciation factors (percent good of price paid by

current owner for the item without freight, installation, or sales or use tax) established by §137.122, RSMo applicable to each group are also provided. The percent good factor is simply determined by matching the recovery period with the years since placed in service.

2. Alphabetical Listing of BPP Groups The second listing provides each type of property alphabetically followed by the Asset Class numbers and recovery period for that type of asset.

**NOTE:** The listings are abbreviated versions of the more detailed descriptions found in Publication 946. That publication must be consulted to accurately determine recovery periods.

The assessor should take into consideration any additional information that may be supplied by the cable operator.

For older property that was put into service prior to January 1, 2006, the State Tax Commission previously made available economic lives and a percent good table. That information is still available by request, but will no longer be maintained due to the new business personal property methodology being implemented into the future.



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## STATE TAX COMMISSION OF MISSOURI ASSESSOR MANUAL

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CHAPTER:

### AG LAND VALUATION

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### 7.3 AG LAND VALUATION

The purpose of this section of the Assessor's Manual is to supplement the State Tax Commission's published rules on the grading of agricultural and horticultural land; and to assist the appraiser/assessor in correctly classifying agricultural and horticultural land into one of the eight grades published by the State Tax Commission.

The classing of soils into the appropriate grades as described in the published rules needs additional explanation in order to provide a better interpretation of the State Tax Commission's intent in grading soils statewide. Some variation will naturally occur between individual interpretations of any written guidelines. The following information should be used to assist in the grading of soil with the goal of equal assessments statewide and to hold to a minimum the difference in the interpretation of the soil grades.

The balance of this material is divided into two (2) sections.

**Section I** contains supplemental information that addresses soil characteristics and other factors that affect the grading of agricultural and horticultural land. In the grading of land, we must evaluate the soil because the characteristics of a soil determine its potential use and identifies its limitations. Careful examination and evaluation of soil characteristics is necessary to decide how the soil will respond and what its strong or weak points are for a particular use. Many characteristics should be considered while grading soils by the State Tax Commission guidelines.

No one characteristic (slope, color, texture, type, etc.) can be the determining factor in placing land into one of the State Tax Commission land grades. All relevant characteristics of a given soil should be considered in order to determine the correct State Tax Commission soil grade.

**Section II** contains the definitions of the eight (8) agricultural and horticultural land grades that were published by the State Tax Commission.

A "Glossary of Terms" relating to agricultural and horticultural land is contained in the Appendix Section of this manual. The glossary contains terms that are generally used or encountered in literature about soils and their classification. Where applicable, the effects on soil capabilities are also identified.

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CHAPTER:

**AG LAND VALUATION**

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**SECTION I**

**SUPPLEMENTAL LAND GRADING INFORMATION**

## **1. Soil Characteristics**

### **A. Land Features**

Generally land falls into one of three positions.

- Upland - These are higher elevations not affected by streams and rivers. Upland soils have a wide variety of slopes, textures and soil types.
- Second bottom or terrace - These originated as deposits from streams or rivers that are now not generally subject to overflow.
- Flood plains or bottom land - These are lands that are adjacent to rivers and streams. Periodically they tend to flood when no man made restrictions such as dams and/or levees are present. Frequency, duration and time of year help determine whether flooding is damaging or not.

### **B. Slopes**

Generally, slope is measured in percentage ranges. Following is a description of the various slopes.

- 0-2% - Land in this range is nearly level with very little runoff of surface water and minimal erosion problems.
- 2-5% - Generally slopes of this range allow surface water to be removed from the soil thereby eliminating ponding and standing water problems. Some conservation practices may be needed if erosion is a possibility.
- 5-9% - Lands in this range generally require some soil conservation practices if extensively row cropped. Conservation tillage, terraces with grassed waterways or tile outlets should be used to limit erosion.
- 9-14% - Usually lands in this range are highly erodible. Rapid water runoff on steeper slopes

increases the erosion hazard. Highly erodible soils should have increased use of small grain and grassland to assist in limiting the loss of topsoil. However, some areas have such deep soils that are so highly productive that row cropping can be accomplished even on these slopes. Depth will not prevent severe erosion and sediment from moving off the surface layer.

14-20% - Typically lands in this range are not used for cropland, but can be used for pasture and hay use if open.

20%++ - Primary use is for woods and limited pasture. If used as pasture, overgrazing can be a major erosion hazard.

### **C. Erosion**

Erosion can be defined as the wearing of the land surface by wind or water. Two types are present in Missouri. Sheet erosion is the removal of a fairly uniform layer of soil from the land; and gully erosion is where water in narrow channels removes soil to a depth greater than sheet erosion usually from one foot to several feet in the same area. Some contributing conditions to erosion are slope, soil texture and cover. Flooding may cause scouring or damaging deposition.

### **D. Flooding**

When determining the effects of flooding on grading, the State Tax Commission's published definition of flooding should be used; however, the word "damaging" should be closely monitored. Example: Flooding occurring before or after the growing season could be a benefit to the soil by depositing additional sediment to the existing soil. Damaging flooding causes a direct loss of capability that is sufficient enough to affect yields and profitability. Yield loss must be great enough over a 10 year period to affect the soil's income producing capability.

### **E. Productivity**

Soils differ in their ability to produce. Some soils are best suited for soybeans, others corn, and still others wheat and grains. Crop production information from local, knowledgeable and reliable sources should be considered when contemplating the correct grades for agricultural and horticultural

land. Corn, beans, wheat, hay, cotton, rice, livestock and any other revenue producing capability directly attributable to the soil should be considered when grading the land.

#### **F. Climate and Moisture Availability during the Cropping Season**

Missouri is a large land mass and the climate varies from area to area. Consideration should be given to average annual rainfall, temperature and length of growing season when classifying soils into one of the eight land grades. It could be possible for the same soil to fall into more than one grade because of the wide range of climatic conditions in the state.

#### **G. Color of Soil**

The color of the surface (plow) layer, generally accepted to be the top seven (7) inches, indicates the organic matter content and, to a limited extent, reflects inherent soil fertility. Soils with high organic matter content are usually dark in color and are best suited for row crops. Conversely, those soils with low organic matter will be light colored at the surface layer and generally are less favorable for cultivation. Typically, soils range from dark brown to black on the high side in organic matter to red and pale yellow on the low side of organic matter. These colors range in the soil surface layer from thin (less than 3 inches) to thick (greater than 12 inches). Variations will occur in color in different geographic areas of the state.

#### **H. Texture**

The texture of the plow layer refers to the proportions of soil particles (sand, silt and clay) in that layer. Texture affects aeration, erosion, ease of tillage, moisture availability and water holding capacity. Generally, texture is described as a combination of the different particle sizes. A sandy soil feels gritty and will not stick together when wet. It has a low available water capacity. A silty soil is smooth, will not form a ball when pressed in the hand and has high available water capacity. A clayey soil forms a slick ball when pressed and is high in water holding capacity but provides low availability to the plants. A loamy soil, with a combination of particle sizes, clings together but has small cracks when pressed, has rough surfaces, some sand is evident when compacted between the fingers and is moderate in water holding capacity. Flagstones, cobbles and gravel are coarse fragments, from 2mm to 10 inches in size, and do not absorb water. As the percentage of rock or

stone increases, the soil productive capability decreases.

An example of commonly defined soil textures found in soil surveys are silt loam, fine sandy loam, silty clay loam, gravelly silt loam, flaggy silty clay loam, clay, sandy clay and others.

### **I. Subsoil Characteristics**

The type and depth of the subsoil can directly affect the production capability of the soil. Fragipans, claypans, rocky, gravelly and bedrock all affect productivity. (See the glossary of terms in the Appendix Section for the definition of these terms.)

### **J. Soil types (Phases of Series)**

A listing of soils in the state is available from the Soil Conservation Service. The characteristics of these soils should be examined to determine what capability is inherent in each soil type. Area of the state, climate and all other listed properties of the soils should be weighed in determining the proper grade.

### **K. Other Factors**

One of the soil's vital functions is to serve as the natural medium for the growth of plants. This capacity varies among soils having different productive capabilities and each can be varied by land management practices. The effects of land management must be taken into account. Management, for our use in land classification, should be based upon those practices that the average prudent farmer would use to achieve the land's highest return to be gained from the investment in time, labor and resources.

## **2. Soil Survey**

A majority of the counties in the state either have a published soil survey, a survey that is completed and waiting for publication or one that is presently being surveyed with an estimated completion date. Generally data is available at county Soil Conservation Service offices for areas not published at the present time and should be utilized as a resource of available information that can assist in soil



classification. Generally counties along the Mississippi River, the western counties in Missouri and all counties north of the Missouri River have either a published survey or the mapping has been completed but the soil survey is in the process of being published. A check at the Soil Conservation Service's office in the county will be most beneficial when seeking soil data.

Soil surveys should be used only as another tool that's available to assist the appraiser in grading land, not as a conversion to one of the State Tax Commission grades. Major differences exist in the eight capability units described in soil surveys and the eight soil grades distributed by the State Tax Commission. Direct conversion should be avoided. On-site inspection, used in conjunction with available soil survey data, should be the basis for soil classification.

### **3. Productivity Index Rating (PI)**

The Productivity Index (P.I.) provides a scientific basis for comparing one soil with another soil. These P.I.'s should remain constant over a period of years while overall yields may increase. For our use, we will use the Production Index system developed by Ival D. Persinger, who was a Soil Scientist for the Soil Conservation Service, Columbia, Missouri. This system has been revised and updated by the Soil Conservation Service to consider current technology and trends. More detailed information about this method can be obtained at local Soil Conservation offices statewide.

Calculation of P.I.'s involve indexing soils and assigning a value (zero or minus) to each subdivision of the soil property or factor. These details will not be explained here; but contact with local Soil Conservation Service offices will yield information as to the calculation of P.I.'s. An individual P.I. rating for a soil mapping unit reflects the integrated effect of numerous factors that influence the yield potential.

The six soil properties considered for the P.I. system are: (1) Nutrient supplying power, (2) Depth of root penetration, (3) Natural soil drainage, (4) Soil texture, (5) Flooding and ponding, and (6) Slope and erosion.

These P.I.'s can also be used as another tool to assist the appraiser/assessor in selecting the appropriate land grade for agricultural and horticultural lands.

#### **4. Conclusion**

These listed soil characteristics, as explained above, are considerations that we, as appraisers, should address when classifying soils statewide. If these considerations are incorporated into land grading practices without regard to county lines, our goal of statewide equalization can be an achievable accomplishment.

At a minimum, the following soil characteristics should be addressed when grading agricultural and horticultural land. This is not to imply that these are the only features to be considered. Other relevant characteristics should be commented on as appropriate.

(1) Land features (position)

- Upland
- Second Bottom or Terrace
- Bottom Land

(a) If bottom land, comment on flooding

- Frequent damaging flooding
- Occasional damaging flooding
- Occasional or frequent flooding but not damaging to productivity due to time of year flooding normally occurs or the brief duration of the flood conditions
- Protected

(2) Percent of slope

(3) Current use/Potential use

- Row crops (Corn, Soybeans, Milo, etc.)
- Small grain crops (Wheat, Oats, Barley, etc.)
- Hay/Pasture land (Alfalfa, Clover, Orchard grass, Fescue, etc.)

(a) If hay/pasture land, comment if soil could be used for row crops or small grain crops

(4) Top soil depth and textural class (silt loam, silty clay loam, fine sandy loam, etc.)

- (5) Color of soil and appraiser's opinion of organic matter content and natural fertility of soil
- (6) Erosion problems - past and potential; and what soil conservation practices are currently in effect or needed
- (7) Natural drainage (use one of the seven recognized classes)
- (8) Available water capacity (Very low, Low, Moderate, High, Very high)
- (9) Rock, Chert or Gravel in surface layer
- (10) If information is available, comment on subsoil characteristics. Especially important are comments on depth to underlying pans (fragipan, claypan, etc.) or depth to bedrock.
- (11) Average crop yields if obtained from knowledgeable and reliable sources

A sample Soil Evaluation Checklist is included in this section. This form can be used by the appraiser to identify the characteristics of soils within his/her county.

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**SOIL EVALUATION CHECKLIST**

COUNTY NO. _____	SOIL GRADES			
SAMPLE NO. _____	GRADE _____	GRADE _____	GRADE _____	GRADE _____
1. POSITION:				
a. Flooding				
b. Frequency				
2. PERCENT SLOPE:				
3. CURRENT USE:				
4. POTENTIAL USE:				
5. TOPSOIL DEPTH:				
6. TEXTURE OF SURFACE LAYER:				
7. SOIL COLOR:				
8. ORGANIC MATTER CONTENT:				
9. NATURAL FERTILITY:				
10. CURRENT EROSION EROSION:				
11. POTENTIAL EROSION HAZARD:				
12. NATURAL DRAINAGE:				
13. SURFACE WATER RUNOFF				
14. AVAILABLE MOISTURE CAPACITY:				
15. STONE/CHERT IN SURFACE LAYER:				
16. SUBSOIL CHARACTERISTICS				
17. ROOT ZONE RESTRICTIONS ABOVE 60" (TYPE):				
a. Depth to Restriction:				

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b. Thickness of Restriction:				
18. AVERAGE CROP YIELDS:				
A. Source for Crop Yields:				

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**SECTION II**

**AGRICULTURAL LAND GRADE DEFINITIONS**

**1. Agricultural/Horticultural Land Grades**

The following are definitions of the agricultural and horticultural eight (8) grades as published by the State Tax Commission.

**A. GRADE 1**

This is prime agricultural land. The condition of the soils is highly favorable with no limitations that restrict their use. Soils are deep, nearly level (zero to two percent (0-2%) slope), or gently sloping with low erosion hazard and not subject to damaging overflow. Soils that are consistently wet and poorly drained are not placed in Grade 1. They are easily worked and produce dependable crop yields with ordinary management practices to maintain productivity - both soil fertility and soil structure. They are adapted to a wide variety of crops and suited for intensive cropping.

PI Range: 93-100 \*\*\*

**B. GRADE 2**

These soils are less desirable in one (1) or more respects than Grade 1 and require careful soil management, including some conservation practices on uplands to prevent deterioration. This grade has a wide range of soils and minimum slopes (mostly zero to five percent (0-5%)) that result in less choice of either crops or management practices. Primarily bottomland and best upland soils.

**Limitations:**

1. Low to moderate susceptibility to erosion;
2. Rare damaging overflows (once in five to ten (5-10) years); and
3. Wetness correctable by drainage.

PI Range: 86-92 \*\*\*

**C. GRADE 3**

Soils have more restrictions than Grade 2. They require good management for best results. Conservation practices are generally more difficult to apply and maintain. Primarily good upland and some bottomland with medium productivity.

**Limitations:**

1. Gentle slope (two to seven percent (2-7%));
2. Moderate susceptibility to erosion;
3. Occasional damaging overflow (once in three to five (3-5) years) of Grades 1 and 2 bottomland; and
4. Some bottomland soils have slow permeability and/or poor drainage.

PI Range: 76-85 \*\*\*

**D. GRADE 4**

Soils have moderate limitations to cropping that generally require good conservation practices. Crop rotation normally includes some small grain (for example, wheat or oats) and/or hay. Soils have moderately rolling slopes and show evidence of serious erosion.

**Limitations:**

1. Moderate slope (four to ten percent (4-10%));
2. Grade 1 bottomland subject to frequent damaging flooding (more often than once in two (2) years), or Grades 2 and 3 bottomland subject to occasional damaging flooding (once every three to five (3-5) years);
3. Poor drainage in some cases; and
4. Shallow soils, possibly with claypan or hardpan.

PI Range: 66-75 \*\*\*

**E. GRADE 5**

Soils are not suited to continuous cultivation. Crop rotations contain increasing proportions of small grain (for example, wheat or oats) and/or hay. Upland soils have moderate to steep slopes and require conservation practices.

**Limitations:**

1. Moderate to steep slopes (eight to twenty percent (8-20%));
2. Grades 2 and 3 bottomland subject to frequent damaging flooding (more than once in two



(2) years) and Grade 4 bottomland subject to occasional damaging flooding; and

3. Serious drainage problems for some soils.

PI Range: 56-65 \*\*\*

#### **F. GRADE 6**

Soils are generally unsuited for cultivation and are limited largely to pasture and sparse woodland.

##### **Limitations:**

1. Moderate to steep slopes (eight to twenty percent (8-20%));
2. Severe erosion hazards present;
3. Grades 3 and 4 bottomland subject to frequent damaging flooding (more than once in two (2) years), and Grade 5 bottomland subject to occasional damaging flooding (once every three to five (3-5) years); and
4. Requires intensive management for crops.

PI Range: 40-55 \*\*\*

#### **G. GRADE 7**

These soils are generally unsuited for cultivation and may have other severe limitations for grazing and forestry that cannot be corrected.

##### **Limitation:**

1. Very steep slopes (over fifteen percent (15%));
2. Severe erosion potential;
3. Grades 5 and 6 bottomland subject to frequent damaging flooding (more than once in two (2) years);
4. Requires intensive management to achieve grass or timber production; and
5. Very shallow topsoil.

PI Range: 15-39 \*\*\*

**H. GRADE 8**

Land capable of only limited production of plant growth. It may be extremely dry, rough, steep, stony, sandy, wet or severely eroded. Includes rivers, running branches, dry creek and swamp areas. Such lands do provide areas of benefit for wildlife or recreational purposes.

PI Range: 0-14 \*\*\*

\*\*\* Productivity Index is one of many factors utilized to determine soil grade. **No direct PI conversion chart shall be used.**

**I. Definitions**

The following are definitions of flooding:

**(1) Occasional damaging flooding**

Flooding of bottomland that is so infrequent that producing normal row crops is not compromised in most years.

**(2) Frequent damaging flooding**

Flooding of bottomlands that is so frequent that normal row cropping is affected (reduces row crop selection).

**(3) Damaging flooding**

A damaging flood is one that limits or affects crop production in one or more of the following ways:

- Erosion of the soil;
- Reduced yields due to plant damage caused by standing or flowing water;
- Reduced crop selection due to extended delays in planting and harvesting; and
- Soil damage caused by sand and rock being deposited on the land by flood waters.

**2. Forest Land and Horticultural Land**

The following prescribes special rules as to the treatment of forest land and horticultural land.

**A. Adjustment for Forest/Woodlands**

Forest land, whose cover is predominantly trees and other woody vegetation, should not be assigned to a land classification grade based on its productivity for agricultural crops. Forest land of two or more acres in area, which if cleared and used for agricultural crops, would fall into land grades 1 through 5 should be placed in land grade 6; or if such land would fall into land grades 6 or 7, it should be placed in land grade 7. Forest land may or may not be in use for timber production, wildlife management, hunting, other outdoor recreation, or similar uses.

**B. Horticultural Use**

Land utilized for the production of horticultural crops should be assigned to a land classification grade based on the productivity of the land as if used for agricultural crops. Horticultural crops include fruits, ornamental trees and shrubs, flowers, vegetables, nuts, Christmas trees and similar crops which are produced in orchards, nurseries, gardens or cleared fields.

**C. Other Additional Information****(1) Levees**

If the levee is restricted, such as a United States Crop of Engineers levee along the Mississippi, they are grade 7 because they have restricted use. These generally have sand cores. If the levee is a private levee that does not have restrictions, it is grade 6 because it could have hay taken off or cattle grazing on it.

**(2) Man made ponds/lakes/sink holes**

Ponds, lakes, etc. should be graded in accordance with the land around it.

**(3) Land Subject to Conservation Easement**

This is land that is subject to a U.S. Fish and Wildlife conservation easement and is restricted in its use. Under the easement restrictions, the land cannot be used to produce any agricultural or horticultural product and may only be used for hunting purposes.

Section 137.016.3 states that all real property which is vacant, unused, or held for future use for which the determination as to its classification cannot be made under the definition set out in subsection 1 of that section, shall be classified according to its immediate most suitable economic use. In determining its immediate most suitable economic use, the subsection lists eight (8) points to consider: (1) immediate prior use, (2) location, (3) zoning classification, (4) other legal restriction on use, (5) availability of public services, (6) size, (7) access to public thoroughfares, and (8) any other relevant factors. If the immediate use prior to establishment of the conservation easement was agricultural, then the land subject to the easement can be classified and treated as agricultural property.

Section 137.017.4 states that property which is classified as agricultural and which is vacant and unused shall be assessed at twelve percent (12%) of its true value. When both the criterion of vacant and unused are met, then the assessor should assess the land subject to the conservation easement using market value as the basis of value.

If either of these two (2) criteria is not met, then the assessor should assess the land pursuant to the agricultural and horticultural land grading rules. Under this scenario, the land should be placed in grade 7 due to the restricted use.



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#### **7.4 ASSESSMENT OF NATURAL GAS LOCAL DISTRIBUTION COMPANIES**

Natural gas local distribution companies are companies serving intrastate customers, namely residential and commercial/industrial customers. At this time, these companies are locally assessed. Originally, these companies were primarily located within the boundaries of one county. However, due to system expansions and company mergers, many companies now cross county and state boundaries. The companies supplying gas to the distribution companies (known as transmission companies) are typically interstate in nature. Some also supply large industrial customers. These companies are centrally assessed by the State Tax Commission.

All companies rely on original costs as a starting point. It is important for the assessor to arrive at a reasonable level of depreciation.

Recent statutory changes states that real property is "stationary property used for transportation of liquid and gaseous products, including, but not limited to, petroleum products, natural gas, water, and sewage." Gas distribution mains are required to be assessed as real property.

Valuation and parceling of structures, such as offices, should be consistent with similar property in the county. Other real property, such as pipe, should be parceled in the taxing jurisdiction where it is located. Personal property values should be allocated to the taxing jurisdiction by location.

The following forms were prepared as a guide to assist the assessor in the gathering of data. Please note that these forms are not a requirement, but merely represent a guide for the types of information to be gathered to assess natural gas distribution companies.



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### Company Information

<i>Natural Gas Local Distribution Companies Reporting Form/Spreadsheet</i>	
<i>Natural Gas Company to complete shaded area and return to the County Assessor</i>	
<b>NATURAL GAS LOCAL DISTRIBUTION COMPANY CONTACT INFORMATION:</b>	
<b>County:</b>	
<b>Company:</b>	
<b>Tax District/Code:</b>	
<b>or UPN Account #:</b>	
<b>Mailing Address:</b>	
<b>City, State, Zip Code:</b>	
<b>Person to Contact:</b>	
<b>Title:</b>	
<b>Telephone Number:</b>	
<b>Fax Number:</b>	
<b>Email Address:</b>	
<p>Information completed within the <i>Natural Gas Local Distribution Companies Reporting Form/Spreadsheet</i> will be utilized to determine the market value for the Natural Gas Local Distribution Company (LDC) plant. The reporting period for all property owned, used, or leased by the Natural Gas Local Distribution Company is the first day of January each year.</p>	
<b>Notes or Comments:</b>	
Updated 2015	Company Information Form



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### Real Property Reporting Form (Odd Year)

<i>Natural Gas Local Distribution Companies Reporting Form/Spreadsheet</i>				
<i>NATURAL GAS LOCAL DISTRIBUTION CO. - REAL PROPERTY 2015</i>				
<i>Natural Gas Company to complete shaded area and return to the County Assessor</i>				
County:				
Company:				
Tax District/Code:				
or UPN Account #:				
Line	Account Number:	367	376	380
	Account Name:	MAINS	MAINS	SERVICES
1	Construction Work in Progress			
2	Original Costs are reported by year placed in service	2014		
3		2013		
4		2012		
5		2011		
6		2010		
7		2009		
8		2008		
9		2007		
10		2006		
11		2005		
12		2004		
13		2003		
14		2002		
15		2001		
16		2000		
17		1999		
18		1998		
19		Prior to 1998		
<p><b>A separate real and personal property reporting form must be prepared for each taxing district/code within a county to correctly apportion the market value. The company and assessor should work closely together to ensure the accuracy of value apportioned to each tax district/code.</b></p> <p>This form is utilized to provide the assessor with the original cost and year placed in service of assets considered real property for the designated taxing district/code.</p> <p>Construction work in progress is reported in the appropriate column on line 1.</p> <p>Original costs of assets in place are reported in the appropriate columns on lines 2 through 19.</p> <p><b>TYPE OF COSTS:</b> The respondent must file the original or historical costs as found in the Annual Report of Natural Gas Companies to the Public Service Commission of the State of Missouri and/or the Federal Energy Regulatory Commission (FERC) Form No. 2, Annual Report of Major Natural Gas Companies.</p>				
Updated 2015		Company Dist Plant RE Reporting Form		



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### Personal Property Reporting Form (Odd Year)

<i>Natural Gas Local Distribution Companies Reporting Form/Spreadsheet</i>				
<i>NATURAL GAS LOCAL DISTRIBUTION CO. PLANT - PERSONAL PROPERTY 2015</i>				
<i>Natural Gas Company to complete shaded area and return to the County Assessor</i>				
County:				
Company:				
Tax District/Code:				
or UPN Account #:				
Account Number:		368, 369, 377, 378, 379	381, 382, 383, 384, 385	370, 371, 386, 387
Account Name:		Compressor, Measuring & Reg. Station Equipment	Meters & Install., House Reg. & Install., Ind. Meas. & Reg. Equip.	Communication & Other Equip., Other Property on Customers' Premises
Line	Construction Work in Progress			
1				
2	Original Costs are reported by year placed in service	2014		
3		2013		
4		2012		
5		2011		
6		2010		
7		2009		
8		2008		
9		2007		
10		2006		
11		2005		
12		2004		
13		2003		
14		2002		
15		2001		
16		2000		
17		1999		
18		1998		
19		Prior to 1998		
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Updated 2015		Company Dist Plant PP Report Form		





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### Real Property Reporting Form (Even Year)

<i>Natural Gas Local Distribution Companies Reporting Form/Spreadsheet</i>				
<b>NATURAL GAS LOCAL DISTRIBUTION CO. - REAL PROPERTY 2016</b>				
<i>Natural Gas Company to complete shaded area and return to the County Assessor</i>				
County: _____				
Company: _____				
Tax District/Code: _____				
or UPN Account #: _____				
	Account Number:	367	376	380
Line	Account Name:	MAINS	MAINS	SERVICES
1	Construction Work in Progress			
2	Original Costs are reported by year placed in service	2015		
3		2014		
4		2013		
5		2012		
6		2011		
7		2010		
8		2009		
9		2008		
10		2007		
11		2006		
12		2005		
13		2004		
14		2003		
15		2002		
16		2001		
17		2000		
18		1999		
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Updated 2016

Company Dist Plant RE Reporting Form



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### **Personal Property Reporting Form (Even Year)**

<b>Natural Gas Local Distribution Companies Reporting Form/Spreadsheet</b>				
<b>NATURAL GAS LOCAL DISTRIBUTION CO. PLANT - PERSONAL PROPERTY 2016</b>				
<i>Natural Gas Company to complete shaded area and return to the County Assessor</i>				
County: _____				
Company: _____				
Tax District/Code: _____				
or UPN Account #: _____				
Account Number:		368, 369, 377, 378, 379	381, 382, 383, 384, 385	370, 371, 386, 387
Line	Account Name:	Compressor, Measuring & Reg. Station Equipment	Meters & Install., House Reg. & Install., Ind. Meas. & Reg. Equip.	Communication & Other Equip., Other Property on Customers' Premises
1	Construction Work in Progress			
2	Original Costs are reported by year placed in service	2015		
3		2014		
4		2013		
5		2012		
6		2011		
7		2010		
8		2009		
9		2008		
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16		2001		
17		2000		
18		1999		
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<p>A separate real and personal property reporting form must be prepared for each taxing district/code within a county to correctly apportion the market value. The company and assessor should work closely together to ensure the accuracy of value apportioned to each tax district/code.</p> <p>This form is utilized to provide the assessor with the original cost and year placed in service of assets considered personal property for the designated taxing district/code.</p> <p>Construction work in progress is reported in the appropriate column on line 1.</p> <p>Original costs of assets in place are reported in the appropriate columns on lines 2 through 19.</p> <p>TYPE OF COSTS: The respondent must file the original or historical costs as found in the Annual Report of Natural Gas Companies to the Public Service Commission of the State of Missouri and/or the Federal Energy Regulatory Commission (FERC) Form No. 2, Annual Report of Major Natural Gas Companies.</p>				

Updated 2016

Company Dist Plant PP Report Form



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### **Company Information**

#### ***Assessor's Natural Gas Local Distribution Valuation Form/Spreadsheet***

*Assessor to complete shaded area*

#### **NATURAL GAS LOCAL DISTRIBUTION COMPANY CONTACT INFORMATION:**

<b>County:</b>	
<b>Company:</b>	
<b>Tax District/Code:</b>	
<b>or UPN Account #:</b>	
<b>Mailing Address:</b>	
<b>City, State, Zip Code:</b>	
<b>Person to Contact:</b>	
<b>Title:</b>	
<b>Telephone Number:</b>	
<b>Fax Number:</b>	
<b>Email Address:</b>	

Information completed within the *Assessor's Natural Gas Local Distribution Valuation Form/Spreadsheet* will be utilized to determine the market value for the Natural Gas Local Distribution Company (LDC) plant. The reporting period for all property owned, used, or leased by the Natural Gas Local Distribution Company is the first day of January each year.

#### ***Notes or Comments:***

Updated 2015

Company Information Form



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### Real Property Valuation Form (Odd Year)

#### *Assessor's Natural Gas Local Distribution Valuation Form/Spreadsheet*

#### **NATURAL GAS LOCAL DISTRIBUTION CO. - REAL PROPERTY 2015**

*Assessor to complete shaded area*

<b>County:</b>					
<b>Company:</b>					
<b>Tax District/Code:</b>					
<b>or UPN Account #:</b>					

<b>Account Number:</b>	<b>367</b>	<b>376</b>	<b>380</b>	<b>Yearly Total</b>	<b>* Percent (%) Good</b>	<b>Market Value</b>
<b>Account Name:</b>	<b>MAINS</b>	<b>MAINS</b>	<b>SERVICES</b>			
<b>Construction</b>						
<b>Work in Progress</b>				\$0.00	100.00%	\$0
Original Costs are reported by year placed in service	2014			\$0.00	96.25%	\$0
	2013			\$0.00	89.03%	\$0
	2012			\$0.00	82.35%	\$0
	2011			\$0.00	76.18%	\$0
	2010			\$0.00	70.46%	\$0
	2009			\$0.00	65.18%	\$0
	2008			\$0.00	60.29%	\$0
	2007			\$0.00	55.77%	\$0
	2006			\$0.00	51.31%	\$0
	2005			\$0.00	46.85%	\$0
	2004			\$0.00	42.38%	\$0
	2003			\$0.00	37.92%	\$0
	2002			\$0.00	33.46%	\$0
	2001			\$0.00	29.00%	\$0
	2000			\$0.00	24.54%	\$0
	1999			\$0.00	20.08%	\$0
	1998			\$0.00	20.00%	\$0
	Prior to 1998			\$0.00	20.00%	\$0
				<b>Total Value</b>		\$0
				<b>Assessed Value</b>		\$0

**\*Percent Good (%) is a determination of the Assessor. The Percent Good (%), or Column H on this spreadsheet tab, is not protected and may be amended by the assessor if warranted.**

A separate real and personal property reporting form must be prepared for each taxing district/code within a county to correctly apportion the market value. The company and assessor should work closely together to ensure the accuracy of value apportioned to each tax district/code.

Construction work in progress and original costs of assets in place are reported in the appropriate columns/rows.

TYPE OF COSTS: The respondent must file the original or historical costs as found in the Annual Report of Natural Gas Companies to the Public Service Commission of the State of Missouri and/or the Federal Energy Regulatory Commission (FERC) Form No. 2, Annual Report of Major Natural Gas Companies.

Updated 2015

Assessor Dist Plant RE Valuation Form



# STATE TAX COMMISSION OF MISSOURI ASSESSOR MANUAL

CHAPTER:

## ASSESSMENT OF NATURAL GAS DISTRIBUTION COMPANIES

REVISION DATE: 03/23/2016

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### Personal Property Valuation Form (Odd Year)

<i>Assessor's Natural Gas Local Distribution Valuation Form/Spreadsheet</i>						
<i>NATURAL GAS LOCAL DISTRIBUTION CO. PLANT- PERSONAL PROPERTY 2015</i>						
<i>Assessor to complete shaded area</i>						
County:						
Company:						
Tax District/Code:						
or UPN Account #:						
Account Number:	368, 369, 377, 378, 379	381, 382, 383, 384, 385	370, 371, 386, 387 Communication & Other Equip., Other Property on Customers' Premises	Yearly Total	*Percent (%) Good	Market Value
Account Name:	Compressor, Measuring & Reg. Station Equipment	Meters & Install., House Reg. & Install., Ind. Meas. & Reg. Equip.				
Construction Work in Progress				\$0.00	100.00%	\$0
Original Costs are reported by year placed in service	2014			\$0.00	96.25%	\$0
	2013			\$0.00	89.03%	\$0
	2012			\$0.00	82.35%	\$0
	2011			\$0.00	76.18%	\$0
	2010			\$0.00	70.46%	\$0
	2009			\$0.00	65.18%	\$0
	2008			\$0.00	60.29%	\$0
	2007			\$0.00	55.77%	\$0
	2006			\$0.00	51.31%	\$0
	2005			\$0.00	46.85%	\$0
	2004			\$0.00	42.38%	\$0
	2003			\$0.00	37.92%	\$0
	2002			\$0.00	33.46%	\$0
	2001			\$0.00	29.00%	\$0
	2000			\$0.00	24.54%	\$0
	1999			\$0.00	20.08%	\$0
	1998			\$0.00	20.00%	\$0
Prior to 1998			\$0.00	20.00%	\$0	
Total Value						\$0
Assessed Value						\$0
<b>*Percent Good (%) is a determination of the Assessor. The Percent Good (%), or Column H on this spreadsheet tab, is not protected and may be amended by the assessor if warranted.</b>						
A separate real and personal property reporting form must be prepared for each taxing district/code within a county to correctly apportion the market value. The company and assessor should work closely together to ensure the accuracy of value apportioned to each tax district/code.						
Construction work in progress and original costs of assets in place are reported in the appropriate columns/rows.						
TYPE OF COSTS: The respondent must file the original or historical costs as found in the Annual Report of Natural Gas Companies to the Public Service Commission of the State of Missouri and/or the Federal Energy Regulatory Commission (FERC) Form No. 2, Annual Report of Major Natural Gas Companies.						
Updated 2015				Assessor Dist Plant PP Valuation Form		



# STATE TAX COMMISSION OF MISSOURI ASSESSOR MANUAL

CHAPTER:

## ASSESSMENT OF NATURAL GAS DISTRIBUTION COMPANIES

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### Real Property Valuation Form (Even Year)

<i>Assessor's Natural Gas Local Distribution Valuation Form/Spreadsheet</i>						
<i>NATURAL GAS LOCAL DISTRIBUTION CO. - REAL PROPERTY 2016</i>						
<i>Assessor to complete shaded area</i>						
County: _____						
Company: _____						
Tax District/Code: _____						
or UPN Account #: _____						
Account Number:	367	376	380	Yearly Total	* Percent (%) Good	Market Value
Account Name:	MAINS	MAINS	SERVICES			
Construction Work in Progress				\$0.00	100.00%	\$0
Original Costs are reported by year placed in service	2015			\$0.00	100.00%	\$0
	2014			\$0.00	96.25%	\$0
	2013			\$0.00	89.03%	\$0
	2012			\$0.00	82.35%	\$0
	2011			\$0.00	76.18%	\$0
	2010			\$0.00	70.46%	\$0
	2009			\$0.00	65.18%	\$0
	2008			\$0.00	60.29%	\$0
	2007			\$0.00	55.77%	\$0
	2006			\$0.00	51.31%	\$0
	2005			\$0.00	46.85%	\$0
	2004			\$0.00	42.38%	\$0
	2003			\$0.00	37.92%	\$0
	2002			\$0.00	33.46%	\$0
	2001			\$0.00	29.00%	\$0
	2000			\$0.00	24.54%	\$0
	1999			\$0.00	20.08%	\$0
1998			\$0.00	20.00%	\$0	
Prior to 1997			\$0.00	20.00%	\$0	
<b>Total Value</b>						\$0
<b>Assessed Value</b>						\$0
<b>*Percent Good (%) is a determination of the Assessor. The Percent Good (%), or Column II on this spreadsheet tab, is not protected and may be amended by the assessor if warranted.</b>						
A separate real and personal property reporting form must be prepared for each taxing district/code within a county to correctly apportion the market value. The company and assessor should work closely together to ensure the accuracy of value apportioned to each tax district/code.						
Construction work in progress and original costs of assets in place are reported in the appropriate columns/rows.						
TYPE OF COSTS: The respondent must file the original or historical costs as found in the Annual Report of Natural Gas Companies to the Public Service Commission of the State of Missouri and/or the Federal Energy Regulatory Commission (FERC) Form No. 2, Annual Report of Major Natural Gas Companies.						
Updated 2016						
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# STATE TAX COMMISSION OF MISSOURI ASSESSOR MANUAL

CHAPTER:

## ASSESSMENT OF NATURAL GAS DISTRIBUTION COMPANIES

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### Personal Property Valuation Form (Even Year)

<i>Assessor's Natural Gas Local Distribution Valuation Form/Spreadsheet</i>						
<i>NATURAL GAS LOCAL DISTRIBUTION CO. PLANT- PERSONAL PROPERTY 2016</i>						
<i>Assessor to complete shaded area</i>						
County: _____						
Company: _____						
Tax District/Code: _____						
or UPN Account #: _____						
Account Number:	368, 369, 377, 378, 379	381, 382, 383, 384, 385	370, 371, 386, 387	Yearly Total	*Percent (%) Good	Market Value
Account Name:	Compressor, Measuring & Reg. Station Equipment	Meters & Install., House Reg. & Install., Ind. Meas. & Reg. Equip.	Communication & Other Equip., Other Property on Customers' Premises			
Construction Work in Progress				\$0.00	100.00%	\$0
Original Costs are reported by year placed in service	2015			\$0.00	96.25%	\$0
	2014			\$0.00	89.03%	\$0
	2013			\$0.00	82.35%	\$0
	2012			\$0.00	76.18%	\$0
	2011			\$0.00	70.46%	\$0
	2010			\$0.00	65.18%	\$0
	2009			\$0.00	60.29%	\$0
	2008			\$0.00	55.77%	\$0
	2007			\$0.00	51.31%	\$0
	2006			\$0.00	46.85%	\$0
	2005			\$0.00	42.38%	\$0
	2004			\$0.00	37.92%	\$0
	2003			\$0.00	33.46%	\$0
	2002			\$0.00	29.00%	\$0
	2001			\$0.00	24.54%	\$0
	2000			\$0.00	20.08%	\$0
	1999			\$0.00	20.00%	\$0
Prior to 1998			\$0.00	20.00%	\$0	
Total Value						\$0
Assessed Value						\$0
<b>*Percent Good (%) is a determination of the Assessor. The Percent Good (%), or Column II on this spreadsheet tab, is not protected and may be amended by the assessor if warranted.</b>						
A separate real and personal property reporting form must be prepared for each taxing district/code within a county to correctly apportion the market value. The company and assessor should work closely together to ensure the accuracy of value apportioned to each tax district/code.						
Construction work in progress and original costs of assets in place are reported in the appropriate columns/rows.						
TYPE OF COSTS: The respondent must file the original or historical costs as found in the Annual Report of Natural Gas Companies to the Public Service Commission of the State of Missouri and/or the Federal Energy Regulatory Commission (FERC) Form No. 2, Annual Report of Major Natural Gas Companies.						
Updated 2016						

Assessor Dist Plant PP Valuation Form



## STATE TAX COMMISSION OF MISSOURI ASSESSOR MANUAL

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CHAPTER:

### LIVESTOCK VALUES

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REVISION DATE: 2/1/2008

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#### **7.5 LIVESTOCK VALUES**

Each year the State Tax Commission meets with an assessors' livestock advisory committee to formulate values for the various types of livestock. This committee was formed to establish a minimum acceptable value for these types of livestock.

These minimums are calculated by using current market publications, such as the Weekly Market Summary published by the Missouri Department of Agriculture and the Missouri Crop & Livestock Reporter published by the Missouri Agricultural Statistics Service. If a county falls below these minimums, they are asked to provide additional information to the State Tax Commission explaining why they are not in compliance the established minimums.





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## STATE TAX COMMISSION OF MISSOURI ASSESSOR MANUAL

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CHAPTER:

### BILLBOARDS – COST APPROACH TO VALUE

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REVISION DATE: 3/1/2009

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## 7.6 BILLBOARDS – COST APPROACH TO VALUE

### Approaches to Value

Consideration is given to all three approaches to value billboards. The Cost Approach is the easiest to perform and usually the most defensible approach. The Market Approach would be applicable if comparable sales of similar billboards were to be found and validated or enough information was obtained to develop an effective gross income multiplier. The Income Approach could be used if sufficient market income and expense information were available and a defensible cap rate developed.

### Date of Implementation

Statewide information was researched in the last half of 2007 by the State Tax Commission for the valuation of Missouri Billboards for use by the Ratio Study Section as of 1-1-09 using the Cost Approach to value. It became available to all assessment jurisdictions in the last half of 2007 for use in the valuation of billboards for the tax year 1-1-09. The assessor has the choice to use this information or develop other defensible methods.

### Billboard Data & Valuation Form

The Billboard Data & Valuation Form (Billboard Exhibit 1) is a one page form to be used for the valuation of billboards selected in the Ratio Study. It contains four sections; the first section is to record the Ownership and Location Data, the second section is to record the Construction Data. The third section is for Comments that may include description of billboard condition or any comments relative to billboard data and valuation not covered elsewhere on the form. The Valuation section has the actual cost approach.

### Uniform Parcel Number (UPN)

Counties should assign each billboard a Uniform Parcel Number (UPN) that ties to the land ownership UPN. If the billboard(s) has the same owner as the land, both the billboard(s) and the land have the same UPN. If the billboard(s) and the land have different owners, the billboard is a leasehold improvement and has the appropriate UPN. For example, the land is parcel number 9.000 so the leasehold improvement would be 9.001. If there are multiple billboards with different owners on the same land tract, then each owner's billboard(s) would have a different parcel number. If one owner has one billboard and another owner has three billboards on the same land tract, then the parcel numbers would be 9.001 for the one billboard and parcel number 9.002 for the three billboards which would have a combined value. If multiple billboards are involved, it will be necessary to complete a form for each billboard then total the values.

## Discovery and Identification

Not every billboard has a permit. Local zoning authorities allow billboards placed prior to the enactment of restrictive zoning regulations to stay under “grandfather clauses” which generally say that if and when they are removed, they cannot be replaced by another billboard. Without a permit, the current use may be legal but nonconforming. The assessor/appraiser must determine if the remaining tests for highest and best use are met.

The Missouri Department of Transportation (MoDOT) is responsible for the permitting of signs and it maintains a Billboard Sign Inventory report. This printout is maintained on a monthly basis and provides data on the sign location, ownership, type, size, illumination, height, shape, material, and condition. This information may be obtained by visiting a district office and requesting a printout. This report does not replace the need for on-site inspection.

Two web sites that are helpful in obtaining information: Missouri Outdoor Advertising Media and Billboard Companies @ <http://outdoorbillboard.com> and Missouri Outdoor Advertising Association @ <http://members.aol.com/moaahomofc>. These two sites contain contact information for outdoor advertising companies that operate in Missouri. A directory of outdoor advertising companies is included with this material (Billboard Exhibit 2).

## Ownership and Location Data Section

On the Billboard & Valuation Form (Billboard Exhibit 1), the assessor/appraiser records the name of the company that owns the sign, the company person that was contacted, their phone number, and date of contact.

The MoDOT Permit Number is assigned by the Missouri Department of Transportation. Any other permit number should be recorded and noted also as it may be helpful to determine ownership and/or zoning permits. On-site inspection is the most reliable source for the permit number or lack of one. If no permit number is to be found either in the MoDOT Billboard Sign Inventory or from on-site inspection, it should be noted in the Comments section of the Billboard Data and Valuation Form.

The assessor/appraiser must also record the UPN and a brief description of the sign’s location such as highway with cross reference and direction billboard is facing.

## Construction Data

The appraiser needs to determine the construction date of the sign to determine the age and proper assignment of depreciation of the sign structure. It is necessary to contact the owner of the sign for this information as actual age is used in the depreciation schedule. If actual age is unknown, note in the Comments section that the age is estimated from on-site inspection with effective date of January 1 of the odd year of the assessment cycle.

HAGL refers to the “height above ground level” and must be verified during the onsite inspection. The HAGL is measured from ground level to the bottom of the sign’s display area.

There are three Sign Construction Types: **Wood Pole** (wood poles are the primary support), **Steel I – Beam** (steel I – Beam or steel poles as the primary support), and **Monopole** (a single large steel pole as the primary support).

The Class of sign is determined by the size of the single largest display area and described as follows:

**Class 1** (0 – 200 sq. ft.)

**Class 2** (201 – 300 sq. ft.)

**Class 3** (301 – 400 sq. ft.)

**Class 4** (401 – 600 sq. ft.)

**Class 5** (over 600 square feet)

The base structure cost will vary by the class of the sign.

To determine the replacement cost of a sign, information regarding type, size, number of sign displays and illumination is necessary. The display area can be either wood or metal. The number of faces (displays) is necessary to correctly determine the costs of the structure. The appraiser must also note if the sign is illuminated or has any other electronic components.

The appraiser must indicate the Style of Display associated with the sign structure construction type. The various construction types are Monopole and Wood or Steel. Types of displays for Monopole are as follows: center mount, flag mount, “vee” faced, single faced, double faced, back to back flag, “vee” flag, and center mount “vee”, stacked, side by side and tri-surface. Types of displays for wood or steel are as follows: single faced, double faced, back to back flag, and “vee” faced display, side by side and tri-surfaced. The appraiser should check the type of display based upon these construction types. Cost adjustments are made for the style of the display. Multiple entries may be necessary to correctly identify the display style. For example a center mount monopole may be double faced back to back, double faced stacked, or “vee faced”. A double faced steel sign may be back to back or side by side. Illustrations and photographs of construction and display types are included with this material (Billboard Exhibits 3)

## Valuation

The Base Structure Cost is determined by the sign’s construction type (wood pole, steel I-beam or monopole), the class (1 – 5), and the type of display (wood or metal). There are separate cost pages for each of the three construction types (Exhibits 4, 4.1, 4.2). Each cost page contains a separate column of costs for each class of sign. The base cost is determined by multiplying the total square feet of the largest single display area by the appropriate price per square foot.

One display surface is included in the base per square foot cost. An additional cost per face (display area) over one is added to the base structure cost. Multiply the additional number of faces by the cost per face based upon the type of face (wood or metal). The Basic Structure Cost is determined by adding the total base structure cost and the costs of any additional surfaces.

The Basic Structure Cost is then adjusted for height (HAGL), type of monopole display and style of display (stacks). The type of monopole displays that require an adjustment include: back to back, center mount “vee”, and “vee” flag. Stack adjustments are required for stacked displays, “vee” displays, side by side displays and tri-surface displays. Therefore, a wood pole or steel I-Beam constructed sign might require the use of only two of the adjustments, and a monopole sign could have adjustments in all three categories. These Construction Adjustments are percentage adjustments which are applied to the Basic Structure Cost subtotal. The percentage adjustments for these items vary by construction type and class. Each percentage adjustment is multiplied by the basic structure cost and then added to the Basic Structure Cost subtotal to provide an Adjusted Basic Structure Cost.

Additional Improvement Costs include adding for the cost of illumination or electronic displays. The cost of illumination is determined by multiplying the number of illuminated surfaces by the cost per surface by class and adding to the adjusted basic structure cost. Electronic display costs are added to the adjusted basic structure cost and a display face deduction is required since the electronic display has replaced the normal display face. This deduction is made in the basic structure cost in the additional surfaces section.

The total structure cost is the sum of the basic structure cost, construction adjustments and additional improvement cost. The county location adjustment is a factor of 1.00. This is not the same factor as the county index or local multiplier.

The depreciation is expressed as a percent good, and is taken from the Billboard Depreciation Schedule (Billboard Exhibit 5) which is included in this material. The actual age should be based upon the first year of the appraisal cycle (example 2009). Therefore, appraisals completed in the second year (2010) will still use the first year (2009) to calculate the age. The depreciation schedule reflects a straight-line depreciation rate with a residual depreciation of thirty percent and ten percent. The applied percent good should be based upon the actual age of the signboard as indicated in the Billboard Depreciation Schedule. The ten (10) year life table is for electrical items such as illumination and electronic displays; the twenty (20) year life table is used on all wood structures; and the forty (40) year life table is to be applied on all steel structures.

The replacement cost new less depreciation value is rounded. The billboard value is then recorded to the improvement section of the property record card and totaled if the billboard is on leased land. Land value is added if the billboard is on company owned land and the values are totaled. Business signs are often the property of the tenant and are not usually valued as billboards.

This Billboard Cost Manual is used by the STC Ratio Appraisers and made available to all Assessors through handouts and the STC website in the updated Assessor Manual.

# BILLBOARD DATA VALUATION FORM

County-Sample No.: \_\_\_\_\_

REVISION DATE: 3/1/2009

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BILLBOARDS – COST APPROACH TO VALUE

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Ownership and Location Data	
Company Name:	_____
Person Contacted:	_____
Date Contacted:	_____
Telephone Number:	_____
MHTD Permit Number:	_____
Parcel Number:	_____
Location of Structure:	_____

Comments

Construction Data	
Date Built:	_____
Age:	_____
Height Above Ground	_____
Largest Display Surface: Height:	_____ x Width: _____
Number of Faces:	_____
Displays Illuminated:	Yes _____ No _____

Construction Type	Sign Class
Wood Pole	Based on Sign Area
Steel I-Beam	1 - 0-200 Square Feet
Monopole	2 - 201-300 Square Feet
Display Type	3 - 301-400 Square Feet
Wood Face	4 - 401-600 Square Feet
Metal Face	5 - Over 600 Square Feet

Style of Display	
Wood or Steel	Monopole
Single Faced	Center Mount
Double Faced	Flag Mount
Stacked Displays	Vee Faced
Vee Faced	Single Faced
Side by Side	Double Faced
Tri-surface	Back to Back
Electronic Display	Stacked
	Side by Side
	Tri-Surface
	Electronic Display

Valuation	
<b>Basic Structure Cost</b>	
Base Cost	_____ /Sq.Ft. x Sq.Ft. = _____
Additional Surfaces	_____ /Surface x Surfaces _____ = _____
<b>Basic Structure Subtotal = _____</b>	
<b>Construction Adjustments</b>	
Height Above Ground	_____ x _____ = _____
Back to Back Flag	_____ x _____ = _____
"Vee" Flag	_____ x _____ = _____
"Vee" Center Mount	_____ x _____ = _____
Stacked, Side by Side, Tri-Surface	_____ x _____ = _____
<b>Adjusted Structure Cost = _____</b>	
<b>Electronic Improvement Cost</b>	
Illumination	_____ /Surface x _____ Surfaces = 0
Electronic Display	_____ /Surface x _____ Surfaces = 0
<b>Total Structure Cost = _____</b>	
<b>Location Adjustment = 1.00</b>	
<b>Replacement Cost New</b>	
Percent Good	= _____
Percent Good (Electronic Display)	= _____
RCNLD	= _____
Rounded Value	= _____

## BILLBOARD COMPANY DIRECTORY

Company Name	Phone	Web Site	Mailing Address	City	State	Zip
AD One Media, Inc.	636-236-2863		618 Spirit Dr #100	Chesterfield	MO	65605-1438
Ad Trend Inc	816-283-0600	www.ad-trend.com	14450 S Hwy 40	Kansas City	MO	64147
Ayres Sign Co	417-272-3327		18787 Hwy 13	Reeds Springs	MO	65737-9654
Branson Outdoor	417-336-3402		1510Sapling Dr	Branson	MO	63305
Budget Billboards	314-854-1370		10644 Conway Rd	St. Louis	MO	63131-2812
CarMac Outdoor Advertising	816-525-0528		24160 E Hwy 50	Lee's Summit	MO	64063-9500
CBS Outdoor	816-421-5720	www.cbsoutdoor.com	2459 Summit	Kansas City	MO	64108
Craig Outdoor Advertising			P.O. Box 3171	Independence	MO	64055-3171
DDI Media	314-423-5040	www.ddimedia.cc	8315 Drury Ind. Pky	St. Louis	MO	63114
Drury Displays	314-423-5040	www.ddimedia.cc	8315 Drury Ind. Pky	St. Louis	MO	63114
Drury Southwest Inc	573-335-3134	www.drurysouthwest.com	PO Box 1214	Cape Girardeau	MO	63701
DSW Signs Outdoor Advertising	573-334-3114	www.cswwsigns.com	826 Fox Ln	Cape Girardeau	MO	63701
Dynamic Displays LLC	816-478-4395	www.dyniamicdisplaysbillboards.com	217 NW Hemlock St	Lee's Summit	MO	64064
Gateway Outdoor Advertising			372 Fee Fee Rd	Hazelwood	MO	63043-3214
Janso Outdoor Advertising	573-651-4024	www.jascooutdoor.com	PO Box 65	Gordonville	MO	63752-0065
Joplin Signs & Billboards	417-623-6622		11413 Cedar Dr	Joplin	MO	64804-8323
Lamar Outdoor Advertising	573-248-1803	www.lamar.com	7010 A Hilltop Lane	Hannibal	MO	63401
Lamar Outdoor Advertising	573-317-1559	www.lamar.com	PO Box 1089	Osage Beach	MO	65065
Lamar Outdoor Advertising	816-924-5900	www.lamar.com	PO Box 300440	Kansas City	MO	64130
Lamar Outdoor Advertising	573-431-4414	www.lamar.com	PO Box O	Park Hills	MO	63601
Lamar Outdoor Advertising	417-623-8124	www.lamar.com	200N Range Line	Joplin	MO	64801
Magic Media Inc	816-977-2009	www.magicmediainc.net	PO Box 415015	Kansas City	MO	64141
Mid America Advertising	618-365-8888	www.midamericaoutdoor.com	904 Fournie Lane	Collinsville	IL	62234
Missouri Neo	417-862-1778	www.moneonoutdoor.com	3160 W Kearney	Springfield	MO	65803
MPC Billboard Inc	816-324-2700		17500 StateRoute DD	Savannah	MO	64485-8204
Next Media Outdoor Inc	660-826-7700	www.nextmediagroup.com	23443Hall Rd	Sedalia	MO	65301
Olympus Media LLC	573-365-4387	www.olympusmediallc.com	2221 Bagnell Dam	Lake Ozarks	MO	65049
Osage Billboard	573-480-4254		2417 Highway 42	Brumley	MO	65107-3214
Porlier Outdoor Advertising Co	636-463-2100	www.porlier.biz	1027 N Service Rd West	Foristell	MO	63348
Premier Signs Inc	314-524-6835	www.premiersignsinc.com	6767 N Hanley Rd	St. Louis	MO	63136-3622
Premiere Outdoor Advertising	816-461-5656		301 E Lexington Ave	Independence	MO	64050-3004
Sintec	417-678-0180		17 W Pleasant St	Aurora	MO	
Southwest Outdoor Advertising	417-335-3063			Branson	MO	65616
Tri-Star Advertising	573-374-5429		91 Tristar Rd	Sunrise Beach	MO	65079-6834

Figure 1. Typical Billboard Construction Diagram

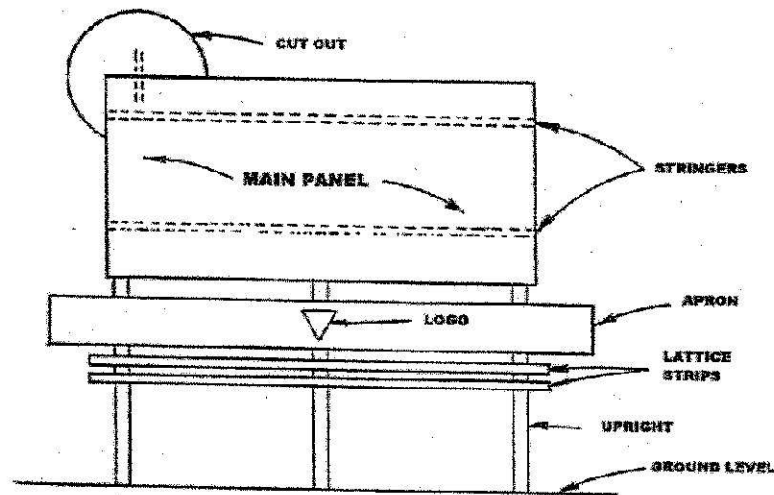


Figure 2. Typical 8-sheet poster panel

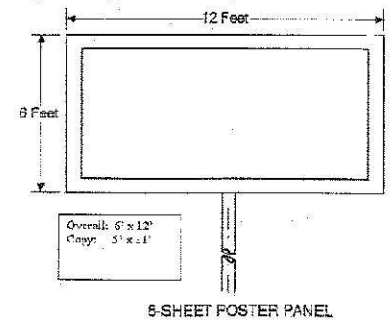
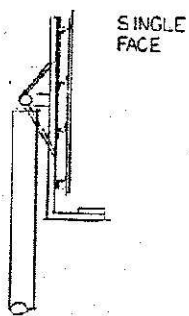
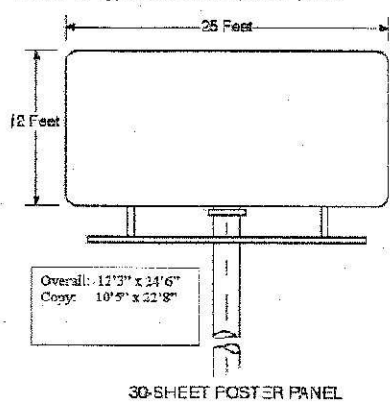
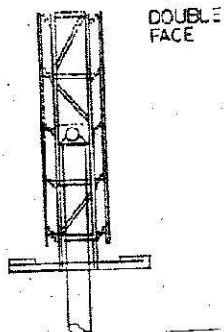
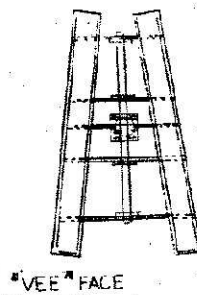


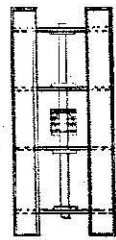
Figure 3. Typical 30-sheet poster panel

SINGLE  
FACEDOUBLE  
FACE

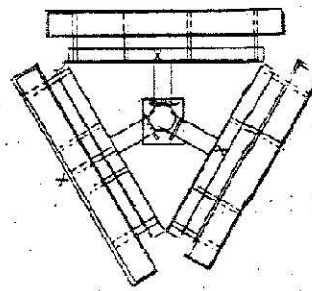
VEE FACE



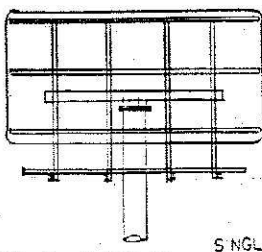
SINGLE FACE



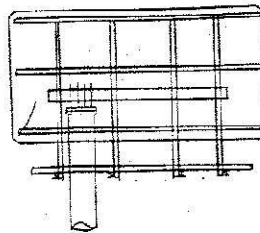
DOUBLE FACE



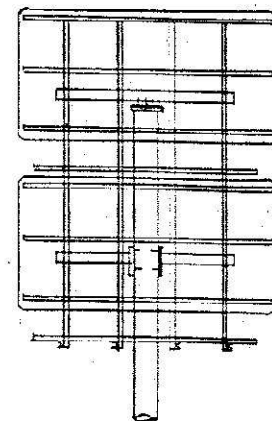
Tri-Surface



SINGLE



FLAG



STACK





WOOD POLE SINGLE DISPLAY



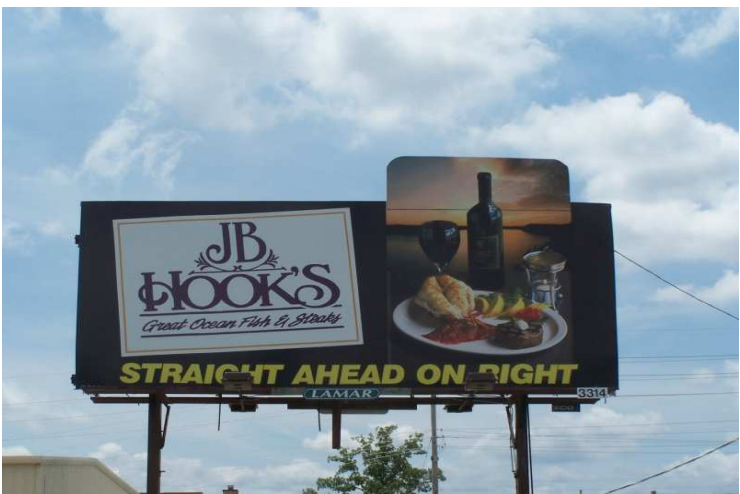
WOOD POLE BACK TO BACK



WOOD POLE STACKED BACK TO BACK



WOOD POLE "VEE"



STEEL POLE SINGLE DISPLAY



STEEL POLE BACK TO BACK



STEEL POLE STACKED BACK TO BACK



MONOPOLE SINGLE DISPLAY





MONOPOLE CENTER MOUNT SIDE TO SIDE



MONOPOLE CENTER MOUNT "VEE"



MONOPOLE CENTER MOUNT "VEE" STACKED



MONOPOLE FLAG "VEE"



MONOPOLE TRI-SURFACE DISPLAYS



MONOPOLE BACK TO BACK STACKED



MONOPOLE "VEE" ELECTRONIC DISPLAY



MONOPOLE "VEE" ELECTRONIC DISPLAY

## Wood Pole Construction

Base price does not include illumination costs

	Class 1 0-200 Sq. Ft.	Class 2 201-300 Sq. Ft.	Class 3 301-400 Sq. Ft.	Class 4 401-600 Sq. Ft.	Class 5 >600 Sq. Ft.
Base Structure Costs					
Base Price (per square foot)					
Wood Face	10.35	11.20	14.10	15.05	15.05
Metal Face	12.50	13.10	16.40	17.25	17.25
Additional Display Surfaces (Cost per Face)					
Wood Face	220	780	940	1,100	1,310
Metal Face	750	1,050	1,575	2,500	2,650
Construction Adjustments					
Height Above Ground Level					
0 - 20 feet	N/A	-10%	-10%	-15%	-15%
21 - 35 feet	0%	0%	0%	0%	0%
Over 36 feet	15%	15%	20%	20%	20%
Stacked Displays	15%	15%	20%	20%	25%
" Vee " Displays (Includes 2 Displays)	15%	15%	20%	20%	25%
Tri-Surface Displays	15%	15%	20%	20%	25%
Illumination ( per surface )	460	700	850	1,700	2,300

## Steel Monopole Construction

Base price does not include illumination costs

	Class 1 0-200 Sq. Ft.	Class 2 201-300 Sq. Ft.	Class 3 301-400 Sq. Ft.	Class 4 401-600 Sq. Ft.	Class 5 >600 Sq. Ft.
Base Structure Costs					
Base Price (per square foot)					
Metal Face	20.50	26.10	45.05	47.10	48.00
Additional Display Surfaces (Cost per Face)					
Metal Face	260	1,050	1,575	2,500	2,650
Construction Adjustments					
Height Above Ground Level					
0 - 20 feet	N/A	-15%	-15%	-15%	-15%
21 - 30 feet	N/A	-10%	-10%	-15%	-15%
31 - 35 feet	N/A	0%	0%	-10%	-10%
36 - 40 feet	N/A	10%	10%	-10%	-10%
41 - 45 feet	N/A	10%	10%	0%	0%
46 - 50 feet	N/A	10%	10%	0%	0%
51 - 55 feet	N/A	15%	15%	10%	10%
56 - 60 feet	N/A	15%	15%	10%	10%
Over 60 feet	N/A	20%	20%	15%	15%
Flag Back to Back	N/A	15%	15%	15%	15%
Center Mount " Vee " (Includes 2 Displays)	N/A	10%	10%	10%	10%
Flag " Vee "(Includes 2 Displays)	N/A	15%	20%	20%	20%
Stacked; Side by Side; Tri-Surface Displays	N/A	15%	20%	25%	30%
Illumination ( per surface )	460	700	850	1,700	2,300
Electronic Display	N/A	151,800	170,000	270,250	308,200

## Steel I Beam Construction

Base price does not include illumination costs

	Class 1 0-200 Sq. Ft.	Class 2 201-300 Sq. Ft.	Class 3 301-400 Sq. Ft.	Class 4 401-400 Sq. Ft.	Class 5 >600 Sq. Ft.
Base Structure Costs					
Base Price (per square foot)					
Wood Face	12.50	14.75	23.25	27.05	28.00
Metal Face	14.12	21.05	31.01	32.22	33.08
Additional Display Surfaces (Cost per Face)					
Wood Face	220	780	940	1,110	1,310
Metal Face	750	1,050	1,575	2,500	2,650
Construction Adjustments					
Height Above Ground Level					
0 - 20 feet	N/A	-10%	-10%	-15%	-15%
21 - 35 feet	N/A	0%	0%	0%	0%
Over 36 feet	N/A	15%	20%	20%	25%
Stacked Displays & Tri-Surface Displays	N/A	15%	20%	20%	25%
Illumination ( per surface )	460	700	850	1,700	2,300
Electronic Display	N/A	151,800	170,000	270,250	308,200

### Billboard Depreciation Schedule

Age	Percent Good Factors 10 year life (Electronic items)	Percent Good Factors 20 year life (Wood Structure)	Percent Good Factors 40 year life (Steel Structure)
1	90.00	95.00	97.50
2	80.00	90.00	95.00
3	70.00	85.00	92.50
4	60.00	80.00	90.00
5	50.00	75.00	87.50
6	40.00	70.00	85.00
7	30.00	65.00	82.50
8	20.00	60.00	80.00
9	10.00	55.00	77.50
10	10.00	50.00	75.00
11		45.00	72.50
12		40.00	70.00
13		35.00	67.50
14		30.00	65.00
15		30.00	62.50
16		30.00	60.00
17		30.00	57.50
18		30.00	55.00
19		30.00	52.50
20		30.00	50.00
21			47.50
22			45.00
23			42.50
24			40.00
25			37.50
26			35.00
27			32.50
28			30.00
29			30.00
30			30.00
31			30.00
32			30.00
33			30.00
34			30.00
35			30.00
36			30.00
37			30.00
38			30.00
39			30.00
40			30.00



# Steel I Beam Construction

Base price does not include illumination costs

Revision Date 2-1-2008

	Class 1	Class 2	Class 3	Class 4	Class 5
	0-200	201-300	301-400	401-600	>600
	Sq. Ft.	Sq. Ft.	Sq. Ft.	Sq. Ft.	Sq. Ft.
Base Structure Costs					
Base Price (per square foot)					
Wood Face	12.50	14.75	23.25	27.05	28.00
Metal Face	14.12	21.05	31.01	32.22	33.08
Additional Display Surfaces (Cost per Face)					
Wood Face	220	780	940	1,110	1,310
Metal Face	750	1,050	1,575	2,500	2,650
Construction Adjustments					
Height Above Ground Level					
0 - 20 feet	N/A	-10%	-10%	-15%	-15%
21 - 35 feet	N/A	0%	0%	0%	0%
Over 36 feet	N/A	15%	20%	20%	25%
Stacked Displays & Tri-Surface Displays	N/A	15%	20%	20%	25%
Illumination ( per surface )	460	700	850	1,700	2,300
Electronic Display	N/A	151,800	170,000	270,250	308,200

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## STATE TAX COMMISSION OF MISSOURI ASSESSOR MANUAL

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CHAPTER:

### ASSESSMENT OF WIND ENERGY FACILITIES

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## 7.7 ASSESSMENT OF WIND ENERGY FACILITIES

The assessment of these facilities falls upon the county assessor. Generating facilities owned by companies that also own the transmission system to the ultimate customers are centrally assessed, but generating plants (such as gas, peak generation facilities) that distribute the electricity on the transmission network of another company are locally assessed. Consequently, wind generating plants or farms should be locally assessed.

### **I. Classification**

The classification of wind generators, though not specifically mentioned in the statutes, could be determined under a common law fixture analysis, as a structure, or in a similar fashion to installed poles as defined in section 137.010(3), RSMo. As the discussion below indicates, it is the Commission's recommendation that they be classified as real property.

### **A. Fixture Analysis**

Under Missouri case law, what would otherwise be personal property can be considered real property, i.e., a fixture, under certain circumstances. The court decisions have been somewhat unpredictable in this area, but the basic test for determining whether or not something is a fixture has been fairly consistent and, according to the Missouri Supreme Court, is:

1. Whether the property has been annexed to the real property;
2. Whether the property has been adapted to fit its location; and
3. Whether the intent of the owner, as evidenced by acts and conduct, is that the property should remain permanently, in other words, more than just a temporary presence. *Daly v. State Tax Commission*, 120 S.W. 3d 262 (Mo. App. 2002).

If these three elements are satisfied, the property in question should be assessed as real rather than personal property. While the adaptation of wind generators to fit the location may be minor, the equipment definitely is annexed to the property and not intended to be removed in the short term—especially the foundations or bases. So, under this analysis, they would be real estate—whether on leased land or land owned by the owner of the generators, and would be analogous to the classification of billboards. *State ex rel. Thompson v. Osage Outdoor Advertising*, 674 S.W. 2d 81 (Mo. App. W.D. 1984).

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Intent is an objective rather than subjective test. If the fixture is apparently part of the realty, the assessor is justified in relying on its appearance regardless of the existence of secret agreements for retention of title or a right of removal under the doctrine of trade fixtures. Although the parties may disclose the existence of separate ownership, the assessor is not compelled to make a laborious inquiry into the possible real or personal nature of annexations. Simple expedience requires that assessors be allowed to rely on the apparent character of assessed land or chattels. *Oberjuerge Rubber Co. v. State Tax Com'n of Missouri*, 674 S.W. 2d 186 (Mo. App. E.D. 1984).

#### **B. Section 137.010 Analysis**

Section 137.010(3), RSMo. defines real property (emphasis added) as including:

. . . land itself, whether laid out in town lots or otherwise, **and all** growing crops, buildings, **structures**, improvements and fixtures of whatever kind thereon . . .

In *State ex rel. Thompson v. Osage Outdoor Advertising*, 674 S.W. 2d 81 (Mo. App. W.D. 1984) the Court of Appeals, after reviewing numerous cases, determined that billboards were not only fixtures, but were also structures within the meaning of Section 137.010(3), RSMo, indicating that the word “structure” should be given a broad interpretation to include a thing built, erected or fabricated.

Wind generation facilities are real property under Missouri law.

#### **II. Commercial Real Property Subclassification**

It is the Commission’s position that wind generating systems are properly classified as commercial property. Section 137.016.1(3) RSMo. defines “utility, industrial, commercial, railroad and other real property” as:

[A]ll real property used directly or indirectly, for any commercial, mining, industrial, manufacturing, trade, professional, business, or similar purpose, including all property centrally assessed by the state tax commission but shall not include floating docks, portions of which are separately owned and the remainder of which is designated for common ownership and in which no one person or business entity owns more than five individual units. All other real property not included in the property listed in subclasses (1) and (2) of section 4(b) of article X of the Missouri Constitution, as such property is defined in this section, shall be deemed to be included in the term “utility, industrial, commercial, railroad and other real property”.

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Both the cited statute and Article X, Section 4(b) of Missouri's Constitution clearly indicate that "utility" property falls into a commercial classification. A "utility" is business enterprise that performs essential public service and is subject to governmental regulation. A public utility is a company that provides necessary services to the public, such as telephones, electricity and water. *Black's Law Dictionary*, Seventh Edition, 1999. Property used to provide electricity is best characterized as "utility" property.

Using wind to produce electricity is analogous to using water to produce electricity (dams) or removing natural resources from the soil (mining), both of which are commercial pursuits.

### **III. Valuation**

It is difficult to find information on valuing this type of equipment. Marshall-Swift makes no mention of wind generation power plants, and the systems do not fall neatly under the rural electric guidelines. Until sales are available for a comparable sales approach and to determine market capitalization rates under an income approach, the assessor most probably will be forced to rely on the companies involved for cost information, and depreciate the costs provided in a manner similar to other commercial or industrial property.

The initial commissioning and testing issues wind generation facilities encounter when first in operation and repairs that are often necessary due to the 10 year life of some of the essential parts of the generator make assessment of wind generation facilities difficult. It is the Commission's understanding that the first Missouri counties to assess such facilities jointly chose to assess the property during the first two-year assessment cycle at 40% good, the second two-year cycle at 37% good, and the third two-year cycle and beyond at 35% good. To ensure an accurate original cost information, the assessor may wish to require the owners to submit invoices of the towers and associated equipment as well as the wiring connecting it to a system.

The International Association of Assessing Officers (IAAO) provides a "Wind Energy Guide" on its website at: <http://www.iaao.org/sitePages.cfm?Page=425>, which provides information on wind generation. The Guide is accessible by non-members of IAAO and has valuable cites to other resources as well.



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## STATE TAX COMMISSION OF MISSOURI ASSESSOR MANUAL

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CHAPTER:

### ASSESSMENT OF PROPANE TANKS

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## 7.8 ASSESSMENT OF PROPANE TANKS

Propane tanks should be classified as real property. The assessor will then need to determine their sub-classification: residential, agricultural or commercial.

### Classification:

Section 137.010.4 RSMo (Supp 2014) states: “Real property” includes land itself, whether laid out in town lots or otherwise, and all growing crops, buildings, structures, improvements and fixtures of whatever kind thereon, hydroelectric power generating equipment, the installed poles used in the transmission or reception of electrical energy, audio signals, video signals or similar purposes, provided the owner of such installed poles is also an owner of a fee simple interest, possessor of an easement, holder of a license or franchise, or is the beneficiary of a right-of-way dedicated for public utility purposes for the underlying land; attached wires, transformers, amplifiers, substations and other such devices and appurtenances used in the transmission or reception of electrical energy, audio signals, video signals or similar purposes when owned by the owner of the installed poles, otherwise such items are considered personal property; and stationary property used for transportation **or storage** of liquid and gaseous products, including, but not limited to, petroleum products, natural gas, **propane or LP gas equipment**, water and sewage; (emphasis added)

### Sub-classification:

Section 137.016 RSMo defines the sub-classifications of property.

- Residential property includes property with a structure to be used as a dwelling, property in connection with an airport and property with a golf course.
- Agricultural property is property devoted to raising crops and livestock.
- Commercial property as been deemed to include “all other property.” See *Sinclair v. Zimmerman*, STC 90-32613. In *Brookside Estates v. STC*, 849 S.W. 2d 29, the taxpayer argued that the concrete pad for the mobile home should be classified as residential as it will be used for a structure to be used as a dwelling. The Court declined that interpretation and focused on the word structure to be used as a dwelling – finding that the concrete pad was not a dwelling.

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### ASSESSMENT OF PROPANE TANKS

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Given the *Brookside* case, the propane tanks owned by propane companies should be classified as commercial.

#### Taxpayer

Lastly, the assessor should assess the leased propane tanks against the company. The company owns the tanks. If taxes are not paid on the land or not paid on the tanks, the collector may sell off the properties separately. (See Op. Atty. Gen No. 86, Stumberg, 1954)



## STATE TAX COMMISSION OF MISSOURI ASSESSOR MANUAL

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CHAPTER:

### STATE ASSESSMENT OF COMMERCIAL AIRCRAFT NOT OWNED BY AIRLINE COMPANIES

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### **7.9 STATE ASSESSMENT OF COMMERCIAL AIRCRAFT NOT OWNED BY AIRLINE COMPANIES**

This policy outlines the manner in which the State Tax Commission shall process claims of aircraft owned by others:

1. The taxpayer shall make the claim of commercial aircraft upon submission of their personal property list to the assessor.
2. Claims by taxpayers, to either the State Tax Commission or the assessor, being made after May 1 but before September 1 will be processed by the State Tax Commission
3. The taxpayer must notify their county assessor that they will be making a claim of commercial aircraft out of time and provide proof of such to the State Tax Commission.
4. Claims by a taxpayer filed after September 1 will not be processed by the State Tax Commission. The aircraft will be assessed by the county assessor. (12 CSR 30-2.021).
5. Claims by a taxpayer filed for omitted property for prior years will not be processed by the State Tax Commission and the aircraft will be assessed by the county assessor.



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CHAPTER:

### SUBSIDIZED HOUSING

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#### **7.10 SUBSIDIZED HOUSING**

An income approach shall be used to value property with rent limitations or other requirements or restrictions set by the federal or state government. The properties include:

1. Income tax credit properties under Section 42 of the Internal Revenue Code;
2. Properties constructed under HUD programs;
3. Properties constructed with US Department of Ag Rural Development incentives;  
and
4. Other state or federal subsidies for housing programs.

Income Approach for Subsidized Housing Properties:

Actual income of the property minus actual expenses = Net operating income (NOI)

NOI divided by “appropriate capitalization rate” = Indication of Value

Appropriate capitalization rate is not to exceed the average of the current market data available in the county of said parcel of property.





## STATE TAX COMMISSION OF MISSOURI ASSESSOR MANUAL

CHAPTER:

### SUBSIDIZED HOUSING

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### Subsidized Housing Worksheet

	2012	2013	2014
<b>Potential Income Last 3 years</b>			
Rental Income			
# units x monthly rent			
# units x monthly rent			
Rental Subsidy			
Laundry/Vending/Other			
<b>Potential Gross Income</b>			
Less: Actual Vacancy & Collection			
<b>Effective Gross Income *</b>			
<b>Expenses</b>			
Maintenance & Repair			
Utilities			
Administrative			
Insurance			
Reserve for Replacement			
<b>Total Expenses</b>			
<b>Net Operating Income</b>			
<b>Capitalization</b>			
Average Market Rate			
Effective Tax Rate			
<b>Overall Capitalization Rate *</b>			
<b>Indication of Value</b>			

Enter each years information in the gray cells for form to auto-calculate.

\* Requires data entered in prior rows to be greater than zero.

### Subsidized Housing Worksheet

	2015	2016	2017
<b>Potential Income Last 3 years</b>			
Rental Income			
# units x monthly rent			
# units x monthly rent			
Rental Subsidy			
Laundry/Vending/Other			
<b>Potential Gross Income</b>			
Less: Actual Vacancy &			
<b>Effective Gross Income *</b>			
<b>Expenses</b>			
Maintenance & Repair			
Utilities			
Administrative			
Insurance			
Reserve for Replacement			
<b>Total Expenses</b>			
<b>Net Operating Income</b>			
<b>Capitalization</b>			
Average Market Rate			
Effective Tax Rate			
<b>Overall Capitalization Rate *</b>			
<b>Indication of Value</b>			

Enter each years information in the gray cells for form to auto-calculate.

\* Requires data entered in prior rows to be greater than zero.